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HUNTING FOR TROUBLE.

DURING the past two or three years dealers in rubber goods, the country over, have shown a marked interest in the market quotations for crude rubber. As a rule, they have been contented, however, to receive reports occasionally, and, whenever they found that the market had dropped off a little, to use that information as a means of depressing the price of manufactured rubber goods, or of making claims for rebates for goods already purchased. In the same line of investigation and effort an inquiry comes to THE INDIA RUBBER WORLD for daily reports on the crude rubber market, the request coming from a large wholesale house, who do not, and probably will not, at any time, manufacture goods. While this information is available and doubtless will be obtained by these people, it will be in reality of very little value to them. Indeed, if it is to be used as a basis for the purchase of their goods, it will be found to be almost wholly valueless, and further it may be a trouble breeder between the wholesaler and the manufacturer.

Daily, weekly, or monthly quotations furnish no indication at all, in themselves, of the price which the manufacturer paid for rubber in any lot of goods. If the manufacturing concern is equipped with enough capital to purchase wisely, advantage is taken of a fair market and, many times, of especially valuable lots of rubber, and that information is the manufacturer's own and is never reflected in daily market reports. It is also true that the wisest buyers are not always able to take advantage of a falling market, because they have contracts, based on higher priced rubber, and, not being able to forecast the market, have been obliged to purchase to protect themselves. The history of the rubber trade, in both Europe and America, furnishes many instances of rubber manufacturers who not only have lost money, but have practically wrecked themselves in carrying out contracts based on too low a price for crude rubber.

Of course it is equally true that at times manufacturers have made money by stocking up when prices were low and figuring on an advanced price, which followed shortly after. That is not the rule, however, for the keen rivalry existing between manufacturers keeps prices down so that the margin of profit is often too little rather than too much. It is all right for the wholesaler to know about the fluctuations of the rubber market if he so desires; indeed, if he is really interested, he can go further than this and post himself on the prices of fabrics, whiting, sulphur, litharge, and other ingredients necessary to make finished rubber goods, but it can never be of the least practical value to him. Indeed, it will often be an injury.

It is an American proverb that there are those who have grown rich by minding their own business. It is not the jobber's or wholesaler's business to purchase crude rubber. He is a purchaser of the manufactured stock, the actual composition of which he understands only so far as the manufacturer sees fit to enlighten him. It is his duty to buy wisely, and to test his goods for durability and for wear, but that is about all. When he goes beyond

that, he is a dangerous meddler. If to-day the whole trade suffers from the criticisms, the restrictions, and the specifications of the purchaser, as it certainly does, it is due almost wholly to the half knowledge which inevitably leads him to unsound conclusions.

The buyer who is too sharp, who takes every opportunity to make a claim, and who acts as if the man from whom he purchased was in constant need of watching, is not the shrewd and successful buyer. Reputable concerns are of course in business to make money, but in the rubber business, at least, are neither expecting nor getting exorbitant profits. We therefore suggest to the buyer that a sudden drop of 10 cents in the price of Pará rubber should mean no present advantage to him, and that he is not fair to himself, or to the manufacturer, in making a claim based upon it. In brief, the crude rubber quotations really mean nothing to him, and anything more than a general knowledge of them will profit him little.

MORE HARM THAN GOOD is certain to be done to the legitimate business of planting rubber by the misleading statements put out in the prospectuses of certain companies, organized ostensibly for the purpose of forming plantations. One such recent prospectus states very definitely, as an inducement to the public to buy shares in a projected plantation:

There are a few individual trees near our plantation which have been yielding for thirty-five years past over fifty pounds of rubber annually. This is an *unusual* yield, and not a safe one at all on which to make a calculation, and we mention it only to show the possibilities of the rubber tree in our locality in Mexico. Our estimate of profit of \$150 per annum on each share of our stock can be paid from an average yield of one pound of rubber from each tree per annum.

In answer to an inquiry the secretary of this company writes to THE INDIA RUBBER WORLD:

We will admit that the reference to the rubber trees yielding fifty pounds of gum each year is quite large indeed, and we would not make such statements unless we had the best authority for doing so.

Our authority for the statement as referred to in your letter is a report issued by the United States government, containing a report of Richard Guenther, United States consul general to Mexico, made October 24, 1890.

We have seen the Guenther report before—a short paragraph in one of his communications to his government, saying that “there is one case authenticated in Soconusco” where some transplanted trees had yielded, for more than thirty-five years more than fifty pounds of rubber each per year. But the Guenther report gave no details whereby it might be verified, and the promoter who overlooks all the recently developed facts in relation to rubber to get back ten years to a single paragraph from Guenther—nowhere recognized as an authority—as a basis for his prospectuses and estimates, leaves himself open to suspicion, to say the least.

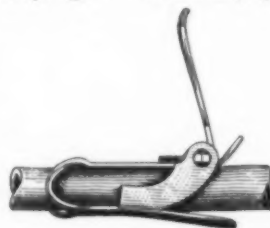
ONE REASON WHY RUBBER IS HIGHER nowadays than in the early days of rubber gathering is that, whereas all that came to market was obtained from natives, working under primitive conditions, and having only primitive wants, much more rubber is gathered at the present time by workers introduced from a distance, at a heavy expense to the capitalists interested. A recent Pará newspaper mentions the prices of the commonest supplies in the rubber district of Acre, in eastern Bolivia, where all the labor has to be imported, and where there practically are no native food supplies. Dried beef is quoted at an equivalent of 90 cents a pound, in United States currency, or

2s. 5½d. sterling; eggs at \$1.98 cents a dozen, and other articles in proportion, even a bottle of beer costing 66 cents. We should no longer have cheap bread, even, if the farmers of the United States had to subsist upon food supplies procurable only at such prices as are quoted above.

THE ADVERTISING COLUMNS OF THIS PAPER contain several announcements offering positions in Europe to capable workmen experienced in the use of American rubber machinery, indicating that such machinery is, as it long has been, in favor on the other side of the Atlantic. While this might be taken as pointing to the fact that, in equipping their works with American made outfits, the European manufacturers were disposed to render their markets independent of American rubber goods, in the same columns will be found inquiries from foreign houses for American rubber specialties for sale abroad. Such indications should prove encouraging to those rubber manufacturers in the United States who are in a position to engage in the export trade. They afford evidence that American products in this line have made a favorable impression elsewhere, and that a demand exists for them, in spite of the exertions of foreign manufacturers to control their own markets. Another point worth considering is that, so long as any industry in any country depends upon the importation of machinery or processes, so long will a certain advantage rest with the country supplying such machinery and processes in the production of the goods for which these are designed. Whenever the rest of the world becomes independent of the United States in the matter of equipping rubber factories, then the manufacturers of rubber goods in this country may begin to feel that the field for marketing their own products has really been narrowed.

METAL SHUT OFFS FOR SYRINGES.

AT first thought one might suppose that the use of the little metallic shut offs in connection with fountain syringes would be a small business. When it is known, however, that orders are often placed for many thousand gross at a time, that opinion is somewhat modified. The shut off is made in three styles, as a rule. The illustrations here given show two styles, one for rapid flow syringes with a large opening, and the other a special type used by only a few manufacturers of syringes. The ordinary type is so well known as to need no



RAPID FLOW.



SPRING SHUT OFF.

special illustration. The manufacturer of these goods is one who has a large factory devoted particularly to specialties in sheet metal goods, and already supplies the rubber trade with brands for hose, belting, and packing, and also makes many articles for special purposes. The shut offs are made by automatic machinery which enables goods to be turned off in almost any quantity and at a price that practically defies competition. [The Brass Goods Manufacturing Co., No. 100 Third street, Brooklyn, N. Y.]

FIRST DINNER OF THE NEW ENGLAND RUBBER CLUB.

THE first annual meeting, dinner, and entertainment of the New England Rubber Club was held at the Trade Club, No. 116 Bedford street, Boston, on the evening of April 16. The club, although young, already numbers over one hundred members, and there were present at the dinner about sixty-five. As the aim of the club is largely to promote sociability among individuals in the New England rubber trade, the reception committee, consisting of Arthur W. Stedman, William J. Kelly, Charles H. Arnold, Henry C. Pearson, William H. Gleason, and Robert B. Baird, very successfully performed their duties of introduction, the half hour prior to the business meeting being devoted to sociability.

The business meeting was called at 5.30 P. M., Mr. Henry C. Morse, president, being in the chair. A skeleton report of previous meetings was read by the secretary, Mr. Henry C. Pearson, and a brief treasurer's report was given by Mr. George P. Whitmore, treasurer.

The president having no gavel, Assistant Secretary William H. Gleason presented him with a rubber police club, suitably inscribed with the words "New England," and decorated with ribbon, explaining that the New England Rubber Club was not the only rubber club in existence and that his gift was simply a suggestion that there were others. The by-laws of the club, which in printed form had been distributed to the members present, were then ratified, and the following officers were elected unanimously to serve for one year:

President—Henry C. Morse.

Vice President—Arthur W. Stedman.

Secretary—Henry C. Pearson.

Assistant Secretary—William H. Gleason.

Treasurer—George P. Whitmore.

Directors—Lewis D. Apsley, Arthur W. Clapp, Charles H. Arnold, Thomas J. Skinner, Charles T. Small, and William J. Cable.

After adjournment, the club filed into the dining room, which was decorated with rubber plants and smilax, with a beautiful center piece at the head of the guests' table. During the serving of the courses the Technology Mandolin Club discoursed excellent music, while between the courses the Mendelssohn Quartet sang popular songs and selections of their own, the diners joining in the choruses. As a help in this chorus singing, pamphlets containing the words of most of the popular songs of the day were distributed, and all joined in the singing most heartily; this fact, as much as any other, serving to promote a feeling of wholesome good fellowship.

After coffee and cigars, the president, Mr. Morse, called the club to order and introduced the editor of THE INDIA RUBBER WORLD, who gave some account of the processes of gathering crude rubber in various parts of the world, in the illustration of which, with stereopticon views, he was assisted by Mr. Eugene Clapp, a member of the club and an expert in stereopticon work, owning privately the best apparatus in New England.

Following this, in response to the toast, "Our Club," the Hon. L. D. Apsley, in a bright fifteen minutes' speech, made an excellent point in emphasizing the great value of trade clubs and associations. He called attention to the fact that the world to-day is so thoroughly industrialized that the leaders in economic thought are fully as likely to be business men as they are to be teachers or professional men.

Mr. Arthur W. Stedman next read an excellent paper entitled: "Ten Minutes in the Tropics," covering scenes based on his recent visit to the Amazon rubber country. Respond-

ing to the toast "Our Pioneers," ex-Governor Augustus O. Bourn, spoke most interestingly of Goodyear, Hayward, Chaffee, and Day, all of whom he had seen.

Mr. George A. Alden, in a brief essay on "The Home of Para Rubber," gave a humorous sketch of the reclaiming business, the wording being almost an exact reproduction of the usual description of the tropical rubber gathering scenes. His paper brought out a brief answer from Mr. Arthur W. Clapp in much the same vein.

The entertainment was closed with another series of stereopticon views, showing first the interiors of the leading rubber factories, with a brief word of description. Following this came views that caused a good deal of amusement; for example, a gentleman present requested a view of the Old North Church in Boston, from which the lantern was hung that signaled Paul Revere on his famous ride in 1775. The view shown was a fine picture of the Revere Rubber Co.'s plant in Chelsea, and a picture of Paul Revere turned out to be a likeness of Mr. Henry C. Morse, the Revere company's treasurer. Following an interior view of the factory of the Boston Rubber Shoe Co., an excellent likeness of Mr. E. S. Converse was thrown upon the screen and heartily applauded. Following a fine likeness of the Hon. L. D. Apsley came a request from the listeners for a view of his new rubber shoe factory. In response, the imposing building of the Capitol at Washington appeared upon the screen. In the light of Mr. Apsley's political successes it made a decided hit, as did also the actual picture of the plant that immediately followed it. The original factory of Bourn & Brown in Providence was shown, and in answer to a question, Governor Bourn got to his feet and was describing the early manufacture of acid cured shoes in Providence, when he found himself confronted by a portrait of himself. He sat down amid a burst of applause. The original factory of the Roxbury Rubber Co., now a part of the Boston Belting Co., was also shown, followed by a portrait of Mr. James Bennett Forsyth, the manufacturing agent and general manager, whose introduction to the trade was greeted with enthusiasm. Next came a picture of "The Hundredth Man," being a portrait of Mr. George H. Forsyth, assistant manager of the Boston Belting Co., the hundredth member enrolled by the club.

The following gentlemen were present at the dinner:

George A. Alden, of George A. Alden & Co., Boston.
George M. Allerton, Seamless Rubber Co., New Haven.
L. D. Apsley, Apsley Rubber Co., Hudson, Mass.
Charles H. Arnold, Reimers & Co., Boston.
Charles J. Bailey, C. J. Bailey & Co., Boston.
Robert B. Baird, Otto G. Mayer & Co., Boston.
Frank D. Balderston, United States Rubber Co., Boston.
Charles W. Barnes, United States Rubber Co., Boston.
Augustus O. Bourn, Bourn Rubber Co., Providence.
W. D. Brackett, Concord Rubber Co., Boston.
Frank T. Carlton, Tyer Rubber Co., Andover, Mass.
Richmond L. Chipman, George A. Alden & Co., Boston.
Arthur W. Clapp, E. H. Clapp Rubber Co., Boston.
Charles A. Coe, Charles A. Coe & Co., Boston.
Allen L. Comstock, American Rubber Co., Boston.
Isaac Crocker, Hope Rubber Co., Providence.
J. Edwin Davis, Boston Woven Hose and Rubber Co., Cambridgeport.
Walter M. Farwell, Empire Rubber Manufacturing Co., Boston.
John H. Flint, Tyer Rubber Co., Andover.
George H. Forsyth, Boston Belting Co., Boston.
William H. Gleason, Revere Rubber Co., Boston.
W. S. Granger, American Wringer Co., Providence.
Edwin D. Hawthaway, C. L. Hawthaway & Sons, Boston.

Frederic C. Hood, Hood Rubber Co., Boston.
 George H. Hood, Hood Rubber Co., Boston.
 Fred H. Jones, Tyer Rubber Co., Boston.
 William J. Kelly, George A. Alden & Co., Boston.
 James H. Learned, Revere Rubber Co., Boston.
 Alfred L. Lindsey, Stoughton Rubber Co., Boston.
 Otto Meyer, Livesey & Co., Boston.
 Wilder F. McClintock, Stoughton Rubber Co., Boston.
 Fred L. Moses, George A. Alden & Co., Boston.
 Henry C. Morse, Revere Rubber Co., Boston.
 Charles A. Morris, Jr., Simplex Electric Co., Boston.
 Henry C. Norton, Apsley Rubber Co., Hudson, Mass.
 Henry C. Pearson, THE INDIA RUBBER WORLD, Boston.
 Franklin W. Pitcher, Easthampton (Mass.) Rubber Thread Co.
 Frank B. Rickaby, Reimers & Co., Boston.
 George Schlosser, Apsley Rubber Co., Hudson.
 Edwin E. Sibley, American Fire Hose Manufacturing Co., Chelsea.
 Thomas J. Skinner, Stoughton Rubber Co., Boston.
 Fred L. Smith, Byfield Rubber Co., Providence.
 James H. D. Smith, Boston Belting Co., Boston.
 Henry B. Sprague, Boston Woven Hose and Rubber Co., Boston.
 Arthur W. Stedman, George A. Alden & Co., Boston.
 John F. Wheeler, Concord Rubber Co., Boston.
 George P. Whitmore, Boston Belting Co., Boston.
 Winfield S. Knowles, Globe Rubber Works, Boston.
 William F. Stevens, Byfield Rubber Co., Boston.
 Walter F. Johnson, Alfred Hale & Co., Boston.
 Herbert I. Conant, Conant Rubber Co., Boston.
 B. F. Good, American Steam Packing Co., Boston.

The gentlemen dispersed in time to get trains for Providence and other points at some little distance from Boston, the universal feeling being that the affair had been exceedingly pleasant throughout, and that both dinner and entertainment were to be voted successes in the best sense of the word.

THE RUBBER FOOTWEAR SITUATION.

THE announcement of prices of rubber boots and shoes for the season of 1900-01, was received by the trade on April 2, apparently without exciting as much interest as in some former years. The trade seems to have reached the conclusion that prices of rubber footwear have become measurably settled—not only with respect to uniformity among all the various manufacturers, but prices are no longer expected to be changed very materially one year from another. Another respect in which the price situation has become settled is, that a permanent rate of discount seems at last to have been established. Furthermore, the fact that the leading manufacturers guarantee their prices for the whole season, has tended to make the trade more stable than in the years when every firm had its own price list and was liable to revise it with every turn in the crude rubber market.

Prices really have changed very little since last season. On the light goods there is practically no change. On boots, arctics, snow excluders, and the like, there has been a change sufficient to mark an advance of probably $4\frac{1}{2}$ per cent. on the entire list. Such an advance, however, is not a serious matter to the trade, since rubber boots and the other goods to which it applies are apt to be worn during a considerable portion of the year, and 50 cents more or less on boots will have little effect upon the demand for such goods.

The rate of discount remains the same, namely, 25 per cent. on first grade goods, and 25 per cent. and 10 per cent. on second grade goods, with an additional 5 per cent. on both grades for all goods for which orders are placed with the manufacturers before October 31. This extra discount is a feature which has been tested so thoroughly by the companies composing the United States Rubber Co., that it seems to have become a part of their settled practice in marketing goods.

Not only are prices little changed, but the catalogues of most of the companies are almost identical with those of last year. Some of the catalogues are the same, page for page, nothing being added or omitted in the way of styles. With regard to

shapes, the tendency apparent during the past two or three seasons toward broader toes in leather footwear remains unchanged, and the rubber shoe manufacturers, as a matter of course, have conformed to it. There are perhaps fewer shapes of toes in the various catalogues this year than last, and a total absence of the toes described as "Needle," "Piccadilly," etc., in catalogues issued not so far back. One feature worth noting is that there has been an increase in the number of lumbermen's styles manufactured this year with rolled edges.

The winter ended with such an amount of snow as to have depleted the stocks of both jobbers and retailers to a much greater extent than was looked for at the beginning of the year, so that manufacturers are probably in a much better frame of mind, and the factories generally have been started on full time in the production of goods for the new season. Probably a careful survey of the field would confirm the views expressed by Mr. Flint, treasurer of the United States Rubber Co., in regard to the small percentage of the total rubber footwear trade that is really dependent upon snow. In any event, the open weather of last winter does not seem to have deterred any of the new companies formed to manufacture rubber shoes, all of which appear to be planning to increase their capacity and output.

A feature of the trade of growing importance is the manufacture of tennis goods, and various other outing shoes, so called, which, while they do not involve a large consumption of rubber, yet seem to fit very conveniently into the rubber shoe manufacture, extending the sales of this trade to a large extent in fields where the demand for rubber boots and shoes has been limited hitherto, if not non-existent.

The following comparative table, compiled from the lists of the Wales-Goodyear Company, for this year and last year, gives examples of the increase or decrease in the net prices of different classes of goods, reference being had to the discounts in force until October 31:

STYLES.	1899.		1900.	
	List.	Net.	List.	Net.
Men's Hip Boot.....	\$5.55	\$3.95	\$6.00	\$4.28
Men's Storm King.....	4.80	3.42	5.10	3.63
Men's Short Boot.....	3.80	2.71	4.50	3.21
Two Buckle Perfection.....	2.75	1.96	3.00	2.14
One Buckle Perfection.....	2.15	1.53	2.50	1.78
Lumbermen's Over.....	1.65	1.18	1.75	1.25
Men's Huron, heel.....	1.80	1.28	1.90	1.35
Arctics.....	1.95	1.39	1.95	1.25
Men's Snow Excluders.....	1.80	1.35	1.90	1.35
Men's Heavy Over.....	1.20	.86	1.20	.86
Men's Plain Sandal.....	1.00	.71	.88	.63
Climax Self Acting.....	.90	.64	.88	.63
Men's Footbold.....	.75	.53	.80	.43
Men's "Emperor".....	2.75	1.96	2.65	1.89
Women's "Empress".....	2.25	1.60	2.00	1.43
Men's Light Self Acting.....	.92	.66	.88	.63
Women's Extra Light.....	.62	.44	.55	.39

DEATH OF N. CHAPMAN MITCHELL.

NATHANIEL CHAPMAN MITCHELL, president of the Philadelphia Rubber Co., and long connected in an important way with the rubber reclaiming industry, died April 26, at his residence, No. 1663 Spruce street, Philadelphia. He was the son of Dr. John K. Mitchell, and his grandfather, Alexander Mitchell, was of Scotch birth, and one of the ablest physicians of the Virginia valley. During the civil war N. Chapman Mitchell served as lieutenant colonel of a cavalry regiment, while his brother, Dr. S. Weir Mitchell, was acting assistant surgeon and sanitary inspector. The deceased was a member of the Philadelphia Club, Union League, Philadelphia Cricket Club and other organizations. He is survived by a son and two daughters.

INDIA-RUBBER FOR CABLE INSULATION IN AMERICA.

By Ira W. Henry.

THE article by Mr. Oscar Schaefer in *The Electrician* (London), on the manufacture of India-rubber cables for submarine use, and particularly with regard to their durability, referred to in THE INDIA RUBBER WORLD for April 1, has caused some surprise in electrical circles in the United States. Although cable engineers in this country had appreciated the fact of the rapid advancement made in both submarine and underground conductors in America, attention generally had not been so forcibly called to the subject as it is understood in Europe.

The first point to be noticed in this article appearing in *The Electrician*—and which I am pleased to understand is a contributed and not an editorial article—is the statement that seamless India-rubber wires are “not to be recommended.” Mr. Schaefer states, in effect, that “strong elastic rubbers, like pure Pará, cannot be pressed through a seamless machine unless heated to such an extent that they perish.” Any one having the least knowledge of India-rubber work will readily see that the necessary heat for vulcanizing, according to the above statement, must always ruin it. It will therefore be seen that if a more intense heat was used to soften the rubber, in the insulating machine, than is actually used in vulcanizing, the rubber would vulcanize before passing through the machine. The vulcanizing point as used on American cables is about 280° F., while the heat of the steam jacketed machines for insulating never reaches a point higher than 200° F. The further statement that “a lead cover is absolutely necessary for the preservation of India-rubber, and that this cover when applied necessarily burns the insulation,” is on a par with the remarks in regard to the insulating process.

Lead as applied to cables, in American practice, is first melted and allowed to flow into a hydraulic cylinder. It is then cooled to a state where it is just plastic, about 125° F. It is then forced around the cable at a temperature again lower than the vulcanizing point, and cooled at once. It will thus be seen that both of these “great objections” to rubber insulation, if they had been considered from an engineering standpoint would not have been made.

Instead of further criticising the lack of knowledge of rubber insulation in England, I think that it would be more charitable to quote from the London *Times* of April 19, 1900, an editorial article on “American Engineering Competition,” introducing a series of letters by a special correspondent who has been investigating industrial conditions in this country. The article states:

The difference between the English and American workmen is the same as the difference between the mechanical discipline of our soldiers and that reliance upon individual training and intelligence which is now recognized as necessary in other armies. In fact our workmen are too much like their masters in thinking that what has been done in the past will do very well in the future. We trust that these letters on American engineering may help to dispel this illusion in time to prevent a rude awakening.

In reference to submarine cables insulated with rubber, the absolute test of time, which is one of the greatest factors for proof, has been successfully made in America. The writer has before him a sample of seamless rubber insulation that has been under water for twenty-one years, and the dielectric is still in perfect condition; the sample simply being cut from

the cable and the rest remaining in active operation under the water.

The compounding of India-rubber for insulating purposes is now well-nigh a fixed science, and is not a matter of experiment, as we must assume, from Mr. Schaefer's article, to be still the case in England. Of course, we must take into consideration that the process of vulcanizing, which is an American invention, must be still imperfectly understood on the other side of the Atlantic. The machines as used in the United States for putting on seamless insulation are not the “sausage machines” spoken of by the writer in *The Electrician*. The description as given there says: “The India-rubber compound fed into these machines in strips, is propelled by a screw to a die, where it is, in a similar way as Gutta-percha, pressed around a conductor, which passes through the hollow screw.” The machine, as originally designed some twenty-five years ago, was practically as above stated, and it seems probable that the London *Times* editorial is correct again in this case—i.e., that the English manufacturer has been satisfied, and that the original machine has not in any way been perfected during the last twenty-five years. It is only necessary to say that the seamless insulating machine is now used almost universally in America; that government specifications call for such an insulated wire, and that these specifications include a layer of pure Pará rubber without compound, $\frac{1}{16}$ of an inch in thickness, surrounding the conductor.

If, as *The Electrician's* article states, it were impossible to use the best Pará rubber, and if in use it were destroyed, it will be seen that these specifications would be impossible, but I am pleased to state that all vessels of the United States navy, and the latest types of Japan and Russia, are entirely equipped with this form of insulation. All of the cables protecting the harbors and connecting the fortifications on the Atlantic, Gulf, and Pacific coasts are manufactured under similar specifications. The cable connecting Cuba with the United States during the war with Spain and the cable used in the Philippines to connect the several islands are also made in this manner.

As for underground lead protected cables, there are now in New York city alone over 10,000 miles of rubber insulation protected with a lead sheathing. Over a thousand miles of these have been running for the past fifteen years, carrying high tension currents, and the cables are still in perfect condition. The largest street railway system in the world has within the past year placed a contract of over \$1,500,000 for similar rubber lead encased cables, over which all the current for running its entire system for electric cars will be transmitted. If years of experience had not proved such cables to be absolutely reliable, it will readily be seen that such a contract would have been impossible.

SEEN IN A LONDON SHOP WINDOW.—Red rubber cash mats, grotesque rubber faces (toys), red rubber fish made to float, red round and oval shaving dishes at 1s. 6d. to 1s. 9d., red air cushions, “Pinnacle” soap stands, rubber trousers strips, waterproof holdalls, trousers tidies, reversible waterproof leggings, waterproof collars and cuffs, window and door silencers, life-saving collars, and hot water bottles at 3s. 9d., 4s. 6d., and 5s. for 2 quart sizes. Whitely's exercisers and other like goods are also shown extensively.

THE INDIA-RUBBER INDUSTRY IN EUROPE.

From the Viewpoint of an American.

SIXTH LETTER.

Growth of the German Rubber Industry—Evidences of its Substantial Character—Why German Rubber Manufacturers are Able to Meet Foreign Competition—Making Goods to Order—Some Personal Mentions.

IT probably is not too much to assert that in no other country has the development of the India-rubber industry been more marked within recent years than in Germany.

The Germans have attained wonderful success in the industrial field since the establishment of the empire, in 1871, no matter to what cause we may attribute it, and the rubber business has had its full share of growth. This is a populous country, and the industry and thrift of the people, together with their progressive tendencies, have led latterly to an increase in the consumption of rubber goods on a scale comparable with that in Great Britain and the United States, where the widespread use of such goods became established at an earlier date. The Germans are intent upon supplying, to the fullest extent possible, the home demand for goods of whatever kind, besides which they have demonstrated a marked capacity in reaching out into foreign markets. Hence their rubber factories not only enjoy a wide and constantly growing home trade, but their products are taking first place in many fields abroad. My previous letters have contained references to the activity of German manufacturers in seeking business in Great Britain and France, and in the channels for international trade which have their source in those countries. And if a careful study were made of the situation, I believe the imports of German rubber goods into the United States would be found to have increased within the last year or two.

* * *

I RECALL that, when questioning various English manufacturers in regard to the growing sale of German rubber goods in fields which in times past they had regarded as particularly their own, the answer generally has implied—if it did not assert the idea in so many words—that the existing condition was temporary; that anybody was liable to be tempted to buy a new line of goods by exceptionally low prices, but that low prices meant poor quality, and when the German goods had been subjected to the test of time, buyers would be disposed to return to the English production.

The impression made upon me by my first visit to a German rubber factory was all the more vivid because of my having had the conversations above referred to. It was not merely the large dimensions of the German factory that appealed to my interest; it was the substantial character of every element of construction in the works I visited, the thoroughness and high character of the equipment, and the evidences of competency on the part of those who had the business in charge. "This business has been built to last," I said to myself; "all these buildings and all this machinery and all these trained workers have not been gathered here merely that the managers may jump into the trade long enough to catch buyers for a season or two, with the possibility of the trade being lost after their customers have had full time to test the goods." Wherever I have been inside a German rubber factory I have found the employés accommodated in spacious, well lighted, and well ventilated quarters, and apparently with first class mechanical equipment for their work. Not only this, but the buildings

have the appearance of having been planned for durability, besides having been enlarged, from year to year, to keep pace with the growth of a steadily developing business. One who looks further into the matter will find also a record of frequent increases of capital of the leading German rubber manufacturing concerns, a growing import of raw materials, an increase in the export of products, and an increasing use of rubber goods for very many purposes within the German empire.

* * *

A FRIEND of mine—not a German, by the way—who has a pretty thorough acquaintance with the rubber industry generally, has some opinions with regard to the methods of the German trade, as compared with what is in vogue elsewhere, which I shall try to give in his own words:

"When a good order from a new source comes to an important English rubber factory, for example, if there are any conditions attached which involve a departure from the established routine there, the management does not always prove equal to making the best of it. To begin with, it is quite possible that the man nominally in charge is without a practical knowledge of the business. He summons a foreman or other subordinate, and asks what is the cost of producing a certain article. The company's cost books show, we will say, 4 shillings. Perhaps, at the price offered by the possible new customer, no profit can be made on an article which it costs 4 shillings to manufacture, and the manager says so. The order goes elsewhere.

"But it is different with the German works manager, who often has been in harness for twenty-five years or more, and has mastered every detail of the business from the ground up. Calling a foreman, he asks:

"How much does it cost to produce such an article?"

"Four marks," is the answer, or about the same as 4 shillings.

"Here is some new business which, if we can take care of it, means an increase of production in your department of 50 per cent. What additional equipment is needed, and at what cost, to bring up the production to that extent?"

"Then they put their heads together, with the result that they may figure out a possible reduction of the cost to say 3 marks 50 pfennigs (equal to 12½ per cent.), or even less, by making the goods on a large scale, without a proportionate increase in operating expenses. Consequently the order can be accepted at the price offered by the buyer, and at a profit. The Englishman, if he hears of the transaction, doesn't believe it possible to make a profit at the price quoted, if honest goods are supplied, and he at once infers that the goods are of inferior quality. But the customer is pleased with the goods and sends in orders thereafter to the German manufacturer. In cases where it is a question of estimating closely, the Germans have the advantage all the time," concluded my friend.

* * *

I DO not assume that this is the sole explanation of the ability of the German rubber manufacturers to earn large dividends while selling goods at prices which some of their competitors seem unable to meet. Germany is the home of modern technical schools, and no doubt the rubber industry here has benefited to a certain extent from the higher standard of skill among the industrial classes which has resulted from their

work. Again, the chemist holds a place in the estimation of the managers of industrial establishments in Germany which as yet is hardly equalled in any other country. Hence more progress has been made here than elsewhere, perhaps, in the satisfactory compounding of certain low grades of rubber, and better results have been obtained from the use of substitutes than in some other countries. There is one more point, but upon this I do not undertake to speak with authority. It is asserted, outside of Germany, that not only is the German tariff high enough to discourage the importation of foreign rubber goods, and to enable manufacturers here to maintain prices in the home market at a profitable level, but that it renders possible substantial reductions in prices for export whenever such a course seems necessary as a means of securing foreign orders. Personally, I am disposed to believe that the exportation of German rubber goods, and of other goods as well, is due largely to the aptitude of the Germans as a race as merchants. Their traveling salesmen go everywhere, their ships touch at every important foreign port, their banks establish branches wherever there seems to be business enough to warrant it. Merely what I have seen of the methods pursued in New York in the introduction of Faber's pencils and erasers throws a world of light on the advantage which must follow the building up of foreign trade on a systematic basis, as compared with any other plan of conducting the business—and it must be remembered that the profits of the rubber industry in Germany depend to an important extent upon the foreign trade. Of course the manufacturers derive a very important advantage from striving to offer in every market just what buyers want, in this respect excelling both the English and the Americans, but this is part and parcel of that quality, already referred to, which fits the Germans for success as merchants in whatever country.

* * *

ON visiting a certain important rubber factory I was shown first through the offices. In one large room were a number of clerks writing in large books—"order books," as I was told. The company have agents all over Germany and many abroad, and every mail brings in orders for goods to be manufactured on the specifications of the customers. The first order on one list which I saw was for a few meters of gas tubing, so many centimeters in diameter, such a quality of rubber, to cost 5 marks (less than \$1.25). "Do you book orders for so small an amount as 5 marks?" I asked the manager. "We take anything—3 marks, if that is a fair price for what a customer wants." Then we fell to discussing the American practice of manufacturing large quantities of goods to be sold from stock and points of difference from European practices.

"I don't understand it," said the German manufacturer. "Take garden hose. How can each and every customer get just what he wants from your manufacturers' stocks?"

I explained that every important American rubber manufacturer who does anything at all in the garden hose line makes a dozen or more brands, differing in size, quality, and price, and that the gardener who cannot be satisfied with such a variety to choose from must be uncommonly hard to please. But even with this fact explained, the German manager was disposed to defend his own practice, if for no other reason than that a great deal of money was necessarily tied up in producing large stocks of goods in advance of orders, and they deemed it more profitable to make up goods only as required. Thus they were in a position to turn over their capital more frequently, and thereby earn larger returns. But the Germans who have a need for garden hose, for example, do not, to the same extent as in America, have fixtures of uniform size to which to attach the

hose; besides, they have the patience to wait for hose to be made up, which Americans, as a rule, do not have.

* * *

THE leaders in the rubber industry in Germany manifest a deep interest in whatever development is made by their competitors abroad. When I visited Hanover I found Herr Adolph Prinzhorn, head director of the great Continental company located there, absent in the United States. He had lately entertained the superintendent of one of the most important American rubber factories, and he was now returning the visit. The effect of the tendency of the German manufacturer to adopt whatever seems to him best in the practice of whatever country is evident in the growth of the exotic rubber industry on a scale more rapid within recent years than even in the country of its origin. No doubt the rubber trade in Germany has benefited by the fact that such men as Herr Emil Spannagel, director of the United Berlin-Frankfort India-Rubber Co., at Berlin, and Senator Carl Maret, of the United Rubber Factories of Harburg-Vienna, have developed their business career in part in other countries. These two have both spent some years in the United States. At Hamburg is the seat of the Harburg Rubber Comb Co., whose proprietor, Dr. Traun, has grown up in the business which he now controls. This business, as is well known, was originally an outgrowth of the hard rubber manufacture established by the late Conrad Poppenhusen, at College Point, now a part of New York city. Already the eldest son of Dr. Traun has spent a term of years in New York, at Pará, and in the far east, and the doctor told me that he was looking forward to sending his youngest son—the third—to the United States to study the rubber industry as it exists there. It has been interesting to me to listen to those German rubber men talking familiarly of rubber conditions in America, Herr Julius Hoff, of the Harburg-Vienna company, for instance, talked of the rubber goods stores in New York, and of the conditions of the importation of crude rubber in the United States, and the like, in a vein which would be impossible with most American manufacturers in respect to the industry in another country. Herr Hoff, particularly, did not confine his remarks to the rubber trade. He had been reading in the newspapers reports of utterances from high English sources on trade relations with Germany, and he had definite and pronounced views on the attitude of the United States on the admission of foreign imports into Cuba, Puerto Rico, and the Philippines. The fact is that these gentlemen regard the whole world as their field, both from which to draw men and ideas in the building up of their factories, and in finding a market for their products.

* * *

MESSRS. SPANNAGEL and Hoff, as well as others, assured me that German rubber manufacturers are taking a substantial interest in projects looking to the purchase of raw rubber practically from first hands. These projects relate, in the first place, to the exploitation of rubber in various German colonial possessions, and, secondly, to a more direct trade with other rubber producing countries. Thus a direct line of steamers now for the first time connects Pará with Hamburg, making it less necessary than formerly for German manufacturers to fill their requirements at Liverpool or Havre, and diverting from English to German channels some of the profits for the transportation of rubber. This item is mentioned as illustrating the tendency of German industry to become independent of the whole world and remain so—so far as relying upon foreigners for anything which Germans can do for themselves is concerned.

* * *

I MUST not omit to mention the Messrs. Ekert Brothers, of

Hamburg, whose ten years' experience in the sale of American rubber footwear not only has done much to extend the demand for such goods in Europe, but should be of value as offering a suggestion to manufacturers in other branches of rubber of what may be done, by systematic effort, and under intelligent supervision, to create and hold new markets.

IN completing this series of letters I shall undertake no set summary of the conditions of the rubber industry in the countries I have visited, and of lessons to be learned therefrom by people who are in the trade elsewhere. At the outset nothing more was promised than a series of desultory impressions of an individual who assumed to speak for himself alone, and these impressions have been set down with an attempt to avoid all bias or prejudice. My experience has been rendered an extremely pleasant one, personally, by the marked courtesy which invariably has been shown to me by the leaders in the various departments of the rubber trade.

H. H.

THE UBERO RUBBER PLANTATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to your inquiry, I beg to say that we have planted at Ubero the past year, 260,000 rubber trees, and will plant the same number this year. We plant from our own nurseries. We bed the rubber seed the first of June, after the first rainfalls, and transplant in October and November. Experience teaches us that this gives the best advantage for transplanting. Then a few weeks after the transplanting, the leaves of the plant fall, and it is apparently dead until the rainy season begins the following year in May, at which time the plant takes on new life, and from that time makes rapid growth. We have on our plantation a large number of native rubber trees. We are seeking to preserve these, but find it difficult to do so, as the Indian finds tapping a rubber tree the easiest method of increasing his income. Our plantation is located at the station of Ubero, which is at the exact geographic center of the isthmus of Tehuantepec, 61 miles in a direct line to the Pacific coast, and 61 miles in a direct line to the Gulf of Mexico, although the National Tehuantepec railroad makes it a greater distance. We have 5000 acres of land, and when our planting is completed we shall have 1,000,000 rubber trees.

W. D. OWEN.

Indianapolis, Ind., April 18, 1900.

THIS company is composed of citizens of Indiana, where William D. Owen, the president, long filled the office of secretary of state. Nat U. Hill is vice president; A. C. Daily, treasurer; U. Z. Wiley and W. I. Overstreet, directors. The executive force at the plantation are F. L. Torres, general manager; Henry A. Luke, secretary; Frank L. Gorton, superintendent; E. L. Beck, cashier; W. Wallace Moore, foreman.

=Mention is made of the departure of several capitalists from New York, Boston, and elsewhere, who have gone to Vera Cruz, Mexico, with a view to investigating the question of rubber culture. In case they are favorably impressed, the incorporation of a large planting company is planned. Among those interested are mentioned Ira H. Miller and John D. Scott, of the Magnolia Metal Co., New York; John L. Griffiths, candidate for governor of Indiana; and Charles A. Dana, of Pittsburgh.

=The following measurements were obtained in January last: from plots of India-rubber planted at the St. Clair experiment station, Trinidad, in July 1898, or eighteen months before: *Castilloa elastica*, height 11 feet, diameter of stem one foot above ground 2.86 inches. *Hevea Brasiliensis*, height 14 feet, diameter one foot above ground, 1.6 inches.

OUTSIDE INTERESTS OF SOME RUBBERMEN.

AMONG the rubber concerns of Akron, Ohio, especially the Goodrich and Diamond companies, are many golf enthusiasts. The season's play has just got well under way. The club's course lies along the crest of a range of hills overlooking the city and is very picturesque. To Colonel George T. Perkins, president of the B. F. Goodrich Co., the club is indebted for the use of the land its links occupy. To the Perkins family also, the club owes its home in a cozy little house of historical interest, it having once been the home of John Brown, the abolitionist. The club house and links occupy what is popularly called the most elevated land in Ohio. From the club house, Summit lake is easily seen. It lies far below, and yet it is 395 feet higher than Lake Erie, thirty-five miles away. The golf club is composed almost exclusively of men directly interested in rubber manufacturing. George A. Barnes, of the Whitman & Barnes Manufacturing Co., which in recent years has become a factor in the rubber world, is treasurer of the organization. The all-important office, chairman of the green committee, is held by C. C. Goodrich, of the Goodrich company.

O. C. Barber, one of the prime factors in the Diamond Rubber Co., at Akron, Ohio, has given to the City Hospital of that place \$100,000, conditional that the city raise \$15,000 to pay the present indebtedness of the hospital. The money will be raised by a tax authorized by a special law, and not one objection to the plan has been heard. Mr. Barber is best known as president of the Diamond Match Co., but he has long been interested in the Diamond Rubber Co., which, by the way, took its name from the fact of its occupying the buildings of the match company when the latter works were removed to the town of Barberton, founded by the "match king." J. K. Robinson, treasurer of the Diamond Match Co., is also largely interested in the Diamond Rubber Co., and is its vice president.

RUBBER BOOTS FOR PHILLIPPINE SOLDIERS.

A SOLDIER writes from Manila to the New York *Sun*: "As the rainy season is rapidly approaching, I thought I would appeal to you on behalf of 50,000 men in the service of 'Uncle Sam' to see whether the war department would furnish the troops on these islands with high-top rubber boots, the tops to be made of the very lightest fabric. I saw such boots in use at Camp Thomas in 1898—the private property of the officers and men. The cost of the boots could be taken from the men's clothing allowance.

"The use of rubber boots in the army would decrease the number of sick men and prevent to some extent rheumatism and blindness. The latter disease seems to be on the increase. Blindness, it is said, is caused by the men wearing wet shoes day in and night out, and in the hospital at Angelis there are several cases which seem to baffle the surgical skill of our doctors."

THERE were eighty-seven establishments in Austria devoted to the manufacture of India-rubber, Gutta-percha, and celluloid goods, on June 1, 1897, according to the latest report of the ministry of commerce on labor statistics.

THE Bourn Rubber Co. (Providence, R. I.) are of the opinion that jobbers generally ended the season without having on hand any exceptionally large stocks of rubber footwear, which would indicate that the late snowfalls were very effective in influencing the sale of goods.

THE RUBBER SCRAP SITUATION.

THERE have been several meetings, during the past month, of members of the Rubber Reclaimers' Association, the organization of which was reported in THE INDIA RUBBER WORLD of April 1, for the purpose of discussing various topics of importance to the trade, and defining further a policy to be pursued in regard to the same. It is understood that complete agreement has not yet been reached in relation to all the points at issue, for which reason any further report on the subject in these columns must be deferred. It is predicted in the trade, however, that the association may not attempt anything further than the maintenance of a social organization of the members of the trade.

The matter which follows is the complete text of a circular which explains itself and which was adopted at a meeting of the association held early in the month:

STANDARD PACKING OF OLD RUBBER BOOTS AND SHOES.

APRIL 2, 1900.

THE undersigned, consumers of old rubber boots and shoes, believing it to be for the interest of the trade in general, do hereby adopt the following rules in regard to a standard packing and handling of the same, namely:

I.—Deliveries of old rubber boots and shoes must consist entirely of boots and shoes of domestic manufacture—Canadian manufacture to be considered domestic manufacture.

II.—They must be dry and free from dirt.

III.—Tennis shoes or tennis soles shall not be accepted.

IV.—Arctics and cloth top boots or shoes with buckles, rivets, eyelets, nails and leather attached thereto, contained in a delivery of old rubber boots and shoes, shall be paid for at one half price, and shall not be returnable to the seller.

V.—Old rubber boots and shoes shall be bought and paid for net weight,—i. e., no allowance for bagging or covering of any kind shall be made, nor shall the same be returnable to the seller.

VI.—All rubber scrap or trash contained in a delivery of old rubber boots and shoes shall be returned to the seller upon his request, upon payment by him of 2 cents per pound, to cover cost of sorting and re-baling.

VII.—Foreign old rubber boots and shoes contained in a delivery of domestic old rubber boots and shoes shall be paid for at a reduction of 2 cents per pound.

VIII.—All domestic rubber boots and shoes shall be bought on weight as determined at destination.

IX.—Old rubber boots and shoes of foreign manufacture shall be bought on same conditions as those of domestic manufacture, c. i. f., port of entry.

X.—The term "Standard Packing" shall apply to all purchases and sales of domestic or foreign old rubber boots and shoes, made in accordance with the stipulations of this circular.

UNITED STATES RUBBER CO.,	UNITED STATES RUBBER RECLAIM-
LOEWENTHAL RUBBER CO.,	ING WORKS,
PHILADELPHIA RUBBER WORKS.,	B. F. GOODRICH CO.,
MECHANICAL RUBBER CO.,	NEW YORK BELTING AND PACKING
BOSTON RUBBER SHOE CO.,	CO., LIMITED,
BLOOMINGDALE RUBBER WORKS,	JOSEPH STOKES RUBBER CO.,
RAYMOND RUBBER CO.,	BOSTON WOVEN HOSE AND RUBBER
DIAMOND RUBBER CO.,	CO.,
TRENTON RUBBER MANUFACTUR-	NEW JERSEY RUBBER CO.,
ING CO.,	CRESCENT BELTING AND PACKING
EMPIRE RUBBER MANUFACTURING	CO.,
Co.,	DANVERSPOUR RUBBER CO.,
E. H. CLAPP RUBBER CO.,	LAKE SHORE RUBBER CO.

No doubt the recent movement looking to the regulation of the rubber scrap trade has gained some strength from the recollection of the experience of the combination formed some nine years ago in the rubber reclaiming industry, when the leading consumers of rubber scrap were merged into one corporation, with a general purchasing agent. During this period the prices

of old shoes—which then formed the principal part of the rubber scrap consumed—were reduced from former quotations and kept for a considerable time at a very low figure. The transactions for two years were as follows:

June 1, 1891–May 31, 1892.....	11,145,170 pounds,	worth \$365,475.18
June 1, 1892–May 31, 1893.....	10,428,175 "	371,450.44

Total.....	21,573,345 "	\$736,925.62
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The average of the whole transactions for the two years—the figures for the first year including something more than 2,000,000 pounds taken over from the constituent companies at the date of the combination—was 3.41 cents per pound. So many conditions have changed since 1891, however, that it would not be strange if all attempts at coöperative buying now should fail.

HAMBURG RUBBER SCRAP MARKET.

A REPORT from Hamburg, on the "old rubber" market, dated March 27, stated that there was little that could be said definitely, owing to a general misunderstanding in the trade. "America makes no purchases, anyway, and offers, which were put out on large quantities, remained without any counter bids. For a few prompt shipments two or three buyers were in the market, a few dealers paying a trifle better prices on the spot. The lack of concerted action among the exporters benefits Russia, as it did last year. If the exporters could confront the American 'pool,' then both parties could have arranged terms of mutual benefit, but only after the firms here have sacrificed a great deal, will a union be reached. A Hamburg firm had—due to a deception in quality and weight by a Russian purveyor—to pay an American firm 8000 marks, and other exporters have likely also lost money that way. For March shipments from German ports, 58 marks per 100 kilograms [=6.3 cents per pound] were paid for old rubber shoes, f. o. b., and quantities from 10 to 20 tons were dealt in. Further transactions have not been considered and only after counter bids from America are received can business be again expected. Other rubber waste in small quantities has been sold inland, and at better prices, about as follows:

	Marks per 100 Kilos.	Cents per Pound.
Soft rubber with admixtures	32	3.5
Ditto, second grade.	16	1.7
Clean rubber waste from shoes.	65	7.
Old red mechanical goods waste.	49	5.1
New red ditto.	82	8.9
Black rubber waste, soft, with admixtures.	35	3.8
Ditto, second grade.	16	1.7
Air brake hose, without wire.	22	2.4
Inner tubes of tires.	80	8.6

ARE CHEAPER TIRES IN DEMAND?

THE declaration is made by a producer of about 10,000 bicycles per annum that there is an increase in the demand for the cheaper as compared with the higher priced tires. This is explained by the change in the class of buyers. The principal purchasers of machines, nowadays, are the wage-earners, to whom the exercise of a little additional leg power is of less importance than the expenditure of money. Riders do not now demand, as they did in the days of old, the demonstration of tire resiliency by means of scientific apparatus. They look for a tire which will render good service rather than for one which may be a second faster in a mile than some other. The result, so far as the maker quoted is concerned, has been a falling off in orders for some of the best tires, and one especially which, although beyond question one of the best in the market, has not been properly advertised by its makers.—*The Cycle Age.*

NEW TRADE PUBLICATIONS.

THE PEERLESS RUBBER MANUFACTURING CO. (New York) have issued their Catalogue No. 32, dated March, 1900, which is a very complete list of mechanical goods, attractively printed in colors and conveniently arranged. Prominence is given to such specialties of the company's production as their "Rainbow" packing, "Eclipse" gaskets, various brands of belting; air brake, signal, and steam hose; and special hose and tubing for pneumatic tools. The catalogue embraces also the leading articles generally manufactured by mechanical rubber goods concerns. In addition to listing and illustrating the company's products, this catalogue contains an unusual amount of interesting practical information of interest to buyers of such goods, such as specifications for air brake and signal hose, and the like. Prices are given of all the goods listed, together with blank spaces for entering discounts. [5 $\frac{3}{4}$ " \times 8 $\frac{1}{4}$ ". 136 pages.]

W. D. ALLEN MANUFACTURING CO. (No. 151 Lake street, Chicago), in their No. 11 Catalogue of Belting, Rubber Goods, and General Mill Supplies, dated March 15, 1900, devote 57 large pages to their rubber department proper, including a very full list of mechanical rubber goods, besides which considerable space is devoted to hose appliances, belt fastenings, lawn sprinklers, and other goods more or less connected with the rubber trade. The Allen company are distributors in Chicago for the products of the Manhattan Rubber Manufacturing Co. (New York), in addition to which they list special products of some other large rubber manufacturers. Incidentally there is much miscellaneous information of interest to users of rubber goods, and portraits of Charles Goodyear and George Woffenden, a veteran rubber manufacturer. In respect to general mill supplies their No. 11 is the most complete catalogue the Messrs. Allen have yet issued. [6 $\frac{3}{4}$ " \times 9 $\frac{3}{4}$ ". 420 pages.]

THE BOSTON BELTING CO. inaugurate a new departure in the way of their trade publications—which are always interesting, by the way—with a booklet printed in colors, the outer lettering on which is confined to the expression DO YOU KNOW? The interrogation mark is so pronounced as to compel attention. The inner pages, also printed in colors, present a number of facts relating to the company's mechanical rubber goods, each shaped as an answer to the question displayed on the cover. [3 $\frac{1}{4}$ " \times 6 $\frac{1}{2}$ ". 16 pages.]

ROBINS CONVEYING BELT CO. (New York) issue a Catalogue of Belt Conveying Machinery, based upon the system of rubber belt conveyors for heavy material developed and patented by Thomas Robins, Jr., described at length in THE INDIA RUBBER WORLD of May 10, 1896. This catalogue contains not only a complete description of the system, with the various details fully illustrated, but also finely executed "half tone" cuts of more than forty installations of Robins conveyor belts in use for handling coal, ores, stone, etc., in many different parts of the country. [6 $\frac{1}{2}$ " \times 9 $\frac{1}{2}$ ". 48 pages.]

THE FRANKFORT ASBESTOS WORKS, LIMITED—formerly Louis Wertheim (Niederrad-Frankfort-on-Main, Germany), have issued a new catalogue of their asbestos and rubber-asbestos products, printed in English for the convenience of an important section of their export trade. It is a very full list, including (1) packings for stuffing boxes; (2) flange and man-hole jointings; (3) insulating materials; (4) miscellaneous, under which are embraced crude asbestos, asbestos powder, asbestos paper, asbestos filtering fiber, asbestos yarn, funnels and dishes, asbestos snow for Christmas trees, asbestos putty and cement, asbestos blotting paper, filter paper, lamp wicks, asbestos cord and rope, asbestos cloth, firemen's clothing, as-

bestos belting and hose, asbestos safes and boxes; and (5) asbestos goods for building purposes, such as millboards, ladders, and theater curtains. The firm's American representatives are named in our new columns this month. [5 $\frac{3}{4}$ " \times 8 $\frac{1}{4}$ ". 29 pages.]

THE B. F. GOODRICH CO. (Akron, Ohio) have brought out a new catalogue of Palmer Tires, largely pictorial in character, which may truly be described as unique in the way of bicycle tire catalogues. It likewise is attractive in appearance, and certain to be kept in hand until the recipient reaches the reading matter on the subject of Palmer tires. [6" \times 9". 24 pages.]

RUBBER SHOE CATALOGUES.

THE various catalogues and price lists issued from the general offices of the United States Rubber Co. (New York), for the season 1900-01, are, as usual, original in outer design and pleasing in appearance, besides which their contents have been planned, as to both character and arrangement, with a view to supplying the dealer with the information regarding several long established brands of rubber boots and shoes which he is most in need of. There are illustrated catalogues and separate price-lists for the following factories:

Goodyear's Metallic Rubber Shoe Co. [Wales-Goodyear.]
Woonsocket Rubber Co.
American Rubber Co.
L. Candee & Co.

The standard size of these publications is 3 $\frac{3}{8}$ " \times 6", and about 48 pages for the catalogues and 16 for the price lists. There are also a catalogue and a price list for the New Jersey Rubber Shoe Co., a catalogue for Meyer and Jersey rubbers combined, and a separate price list for the Meyer Rubber Co. Finally, there are separate price lists for the "Connecticut" brand of the Wales-Goodyear Co., and the "Rhode Island" brand of the Woonsocket Rubber Co., and of the "Colonial" brand, the third rate goods marketed by the United States Rubber Co. These booklets bear the impress of the careful and tasteful work of Mr. John P. Lyons, advertising manager of the company.

THE BOSTON RUBBER SHOE CO. send us, for the season 1900-01, their Illustrated Price List, with its usual attractive make up and very full line of goods described [3 $\frac{1}{4}$ " \times 6 $\frac{1}{2}$ ". 48 pages], and also their annual Jobbers' Catalogue, with larger illustrations—almost "life size," in fact [8" \times 10". 47 pages]. The cover design of both these catalogues, which has received the special attention of Mr. G. L. Richards, the company's advertising manager, represents a group of India-rubber trees, with tropical laborers extracting the sap.

THE JOSEPH BANIGAN RUBBER CO. (Providence, R. I.) issue an illustrated Catalogue and Net Price List of Rubber Boots and Shoes for 1900-01 [3 $\frac{3}{8}$ " \times 6". 63 pages], and a smaller publication containing their Gross Price List, without illustrations [16 pages.] They cover a very complete line of footwear, special attention being called to the finish and quality of these goods; also to their fine specialties in cartons.

THE LYCOMING RUBBER CO. (Williamsport, Pa.) send out a handsomely covered Catalogue and Price List of Rubber Boots and Shoes for the new season, covering the usual production of this factory, together with the addition of a number of items to their "Keystone" brand of goods [3 $\frac{3}{8}$ " \times 6 $\frac{1}{2}$ ". 57 pages.]

HOOD RUBBER CO. (Boston) are sending out for the new season as handsome a catalogue of boots and shoes as one need want to see—printed in colors, illustrated with capital cuts, and describing, in addition to their regular brands, their "Old Colony" brand and also Bailey's "ribbed back" rubbers. [3 $\frac{1}{4}$ " \times 6". 63 pages.]

NEW GOODS AND SPECIALTIES IN RUBBER.

THE FROST PATENT "PNEU-SOLID" TIRE.

A NEW tire for vehicles and automobiles with entirely original methods of attachment and operation has been patented recently by Harrison C. Frost, of Boston. Mr. Frost has been engaged all his life in the manufacture of rubber, and has invented this tire to avoid certain known troubles in the making and defects and weaknesses in the operation of solid and pneumatic tires. Solid tires are inclined to wear prematurely by reason of the pinching of the rubber (when under weight) in the part that lies between the edge of the channel irons and the internal retaining wires or strips. In pneumatics the trouble results from their liability to puncture, and cutting by contact with the edge stones. This new tire is called the "Pneu-Solid," because it rides with the ease and action of a pneumatic tire without the rocking and rolling effect. It has the indestructible features of the solid tire, but it avoids any trembling sensation, and it will not cut or "scalp." The Frost Tire is a sectional and separated tread, and, unlike other forms, Mr. Frost claims that it adds to the appearance of any vehicle, the lines and shape being specially designed to add grace and beauty to the finished wheel. The utility is of particular moment, as his tires are placed in the same channel irons as used by the ordinary solid tires and can be interchanged. They are easily applied and easier repaired; the owner or coachman with the use of only a screw-driver can make his own repairs and get in effect a new tire, if a break occurs by reason of accident. They throw no mud or stones. The accompanying cuts show the action of the treads when under pressure—clearing



Fig. 1.

[Shows a full side view and section of side, cut through lengthwise. *a.* Is the felloe or rim. *b.* Is the channel iron. *c.* Is the hard rubber base. *d.* Is the tread position or the part that comes in contact with the ground. *e.* Is the screw running straight down into the wooden felloe through the hard rubber and channel iron. *f.* Is the square washer. *g.* Is the hole to give extra resiliency and to avoid bouncing.]



Fig. 2.

[Shows the shape that the tread takes when under compression.]



Fig. 3.

[Shows a top view and the square washers under which the ends are held.]

the way by a sort of snow plow idea. In soft mud or water each projecting end serves as a dasher for the other tread. The treads cannot be torn off because they are one and part of the whole thing, and any rubber worker can understand that the joint between the hard and soft is just as strong and firmly jointed as any other part. The rubber is so mixed that while the tread portion is curing to its normal density the base part

has become of a semi-hard consistency, giving the necessary rigidity to the strip. The projecting ends also were designed to help any strains of carriage riding and precludes all chances of getting caught, for the tread will give to an angle of almost 90 degrees, as there are three or four on a bearing. Hence any obstruction or depression, like car tracks, for example, would be bridged and no one tread would be put to that extreme strain. It is claimed that Frost tires are of less draught by 25 per cent. than either solid or pneumatics; that is, horseless vehicles can be propelled with that much less power, and this applies to horse drawn vehicles the same. Mr. Frost will form a company to exploit his patents in this country. The tire is also patented in fifteen foreign countries, including Canada and the American colonies. The rougher the country and the less developed the roads, the more valuable the tire is claimed to be, for rubber tires are most useful for those places, for any tire is "easy" enough on boulevards and parkways. This tire may prove of interest in any factory desiring to add a line of rubber tires to its products. It is made in short lengths, and can thus be cured in most of the regular sized presses and sold by the pound like valves or other molded goods, and without preliminary expenses, for changes or equipment, as Mr. Frost owns his own molds in such quantities that a minimum cost can be assured. His address is No. 170 Summer street, Boston.

THE CANFIELD SET SCREW PROTECTOR.

THE unprotected set screw has been responsible for many a serious accident. The rubber protector here shown is not a new device. It, nevertheless is something that in the interests of humanity should be constantly exploited, and it should be made by a manufacturer who is able to compound rubber that even though it comes in contact with lubricants will not be affected. The Canfield protector has all these requirements, and is highly commended by liability companies and factory inspectors. Manufactured by H. O. Canfield, Bridgeport, Conn.



THE NEW "PYRAMID" NIPPLE.

ONE of the advantages possessed by this new article is that it is quite short when put on the bottle, thus obviating all danger of choking the child by getting the nipple too far down its throat. At the same time, the shape of the nipple allows the child to get a firm grasp upon it; besides, it can not be bent or collapse. Like all the nipples made by this firm, it is made only of pure Pará rubber. [Davidson Rubber Co., No. 19 Milk street, Boston.]



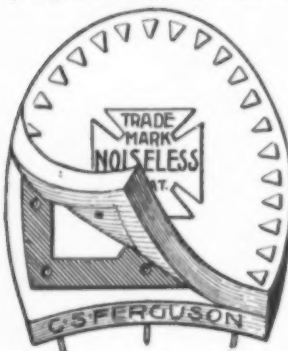
A NEW RUBBER SOLE FOR SHOES.

THERE has been patented lately a detachable sole for leather shoes, the object of which is to render footwear waterproof without the use of rubber shoes, in view of the fact that there are many persons who dislike to wear rubbers. The new invention consists primarily of a frame, preferably of leather, with an outline like the ordinary sole. This frame is little

more than an inch wide, and very flexible. To the frame may be attached a sole of either India-rubber or felt. On the sides of the sole and at the toe are clamps, similar to those used on club skates, but much lighter and neater in weight. The side clamps are adjustable for width by means of a small set screw in the middle of the sole. The rear of the sole is fastened to the shank of the sole by means of a ratchet buckle, the tongue of which is securely screwed to the shoe. The whole may readily be attached to the shoe, or removed. When the sole wears out a new one may be replaced on the frame at small cost. The inventor is William Rankin, No. 24 South Pearl street, Albany, N. Y.

FERGUSON NOISELESS RUBBER HEEL.

THIS new article, patented by C. S. Ferguson, is radically different from any other rubber shoe heel in the market. The heel is of solid rubber, imbedded in which is a solid steel spring extending the entire distance around the heel. This

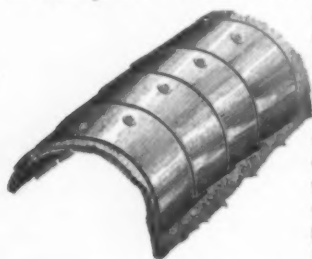


spring contains the holes for the tacks, and does away with the use of floating washers. When the heel is to be fastened on a shoe, the tacks are driven down until the heads touch the metal, thus not only securing the heel solidly, but rendering it smooth and soft, so as not to injure a carpet or polished floor. There is a sort of hollow or air chamber next to the shoe which causes the rubber heel to adhere to the leather, on the same principle

of suction which enables a fly to keep its footing on ceiling or wall. The bottom of the heel is also concave shaped, which, on the same principle, prevents slipping on the sidewalk. This heel has been patented in the United States, Canada, Great Britain, Germany, and France. Mr. Ferguson is the vice president and general manager of a corporation formed, with \$100,000 capital, to manufacture the heels. [The Ferguson Rubber Heel Co., Columbus, Ohio, with agencies at No. 22 Lincoln street, Boston; No. 227 Lake street, Chicago; and 130, London wall, London.]

ROCHESTER NON PUNCTURABLE TIRE.

THE distinctive feature of this tire is a series of "compound concavo-convex, water hardened, watch spring steel plates," and overlapping each other, somewhat like the scales of a fish, thus forming a perfect coat of mail for the air tube. Each of the steel plates or scales is riveted to a blanket protecting the



air tube, which is in the shape of a thin, narrow strip of rubber cloth surrounding the periphery of the tire. The tire having received the plates, it is invested with a rubber tread or "shoe" of corrugated pattern, the portion of the tread which impinges on the ground being extra thick. The tread is in the nature of a jacket,

and is very neatly laced on the under side. It can be easily removed, and as easily replaced when worn out. The steel plates, as shown in the illustration are concavo-convex both laterally and transversely, enabling them to conform perfectly to the shape of the air-tube without "buckling" or

causing any protrusion, and making a "glove fit." They also prevent and make it impossible to puncture the air-tube through the tread of the shoe by nails, pins, tacks, or broken glass. The steel plates are so arranged as to pass far enough around the tire to prevent injury either to the tread or to the side or the air-tube, while the blanket between the air-tube and the steel plates prevents rubbing, chafing or cutting of the tire. This invention was first tested, for cycling use, in March, 1898. In October, 1899, it was purchased by several prominent business men of western New York, and immediate measures taken to market the Non Puncturable Tire. THE INDIA RUBBER WORLD has been advised lately by the company: "We are in hopes to place on the market, within the next few days, a single tube non puncturable tire. Our new tire will be in all respects similar to our present tire so far as the application of the steel plates is concerned, with the exception that the steel plates will be attached to fabric first and then molded into the tire in its manufacture. We find that in this method we do not lose any of the resilience of the tire, and secure the same protection. In the change we accomplish two important points: We do away with the inner tube tire, and also produce the best tire manufactured for automobiles, cheapness and durability being considered." [Non Puncturable Tire Co., Incorporated, Rochester, N. Y.]

DRESSMAKERS' PNEUMATIC FITTING MODEL.

THIS device, invented by Ella M. Schrader, Seattle, Wash., consists of an inflatable rubber form, which conforms, when inflated, approximately to the shape of the body. In using this

form, one of a series of different sized and shaped covers of canvas, or other suitable material, is placed upon it, when in a deflated condition, and over this is fitted a restrainer or lining made according to measurements taken from the person for whom the garment is intended. When, therefore, the lining, which forms the pattern for the waist, is thus placed on the cover, and the body is inflated by an air pump, the rubber form expands and takes the exact shape of the lining, which can then be used



as a model upon which to secure a perfect fit. The canvas cover underneath is used to prevent the elastic material from being pierced by pins or other fastening devices when fitting the pieces for the garment over the lining. Provision has been made by the inventor to reinforce the portions of the lining where it is apt to expand unduly. An elastic belt, adjustable to any size, which encircles the waist portion of the body, prevents undue expansion at this point. When the average woman's dread of having to stand for a dress fitting is remembered, the boon that Miss Schrader has conferred upon femininity the world over will be readily appreciated.

THE United States Rubber Co. are issuing, for the new season, well nigh a million copies of their various illustrated catalogues and price lists of boots and shoes, including tennis goods and "combinations." And yet they are not able to supply all demands in full.

THE INDIA-RUBBER INDUSTRY IN GREAT BRITAIN.

By Our Regular Correspondent.

FIRES of more or less intensity and importance are matters of somewhat common occurrence in our rubber works, more especially where carbon bisulphide is employed. Of course many of these fires are at once put out by the workmen before any great damage is done, and when the services of the fire brigade are not requisitioned they do not attract the notice of the newspaper reporter. To refer to two recent fires, the services of the fire brigade were called for at Messrs. Mandelberg's waterproofing works, Pendleton, Manchester, on March 28, where a fire of some magnitude was in progress. I am not possessed of any details as to the cause of the outbreak, but it is permissible to assume that carbon bisulphide had something to do with it, a good deal of the output of waterproof garments by this firm being cured in the cold by the aid of this chemical. Another fire which occurred a little while ago at the waterproof works of Messrs. Gotliffe, at Hyde, near Manchester, did considerable damage, completely burning out the room where the cold curing was carried on. Somehow or other the carbon bisulphide got alight, though there is no evidence to show whether the cause was an electric spark or was due to surreptitious smoking on the part of one of the workmen. The fire brigade of a neighboring cotton mill fortunately came to Messrs. Gotliffe's assistance and prevented the fire spreading to other parts of the mill. With regard to fires such as these, there seems no doubt that the modern government regulations requiring the machines to be boxed in increase the risks of fire, because any failure of the ventilating arrangements causes the vapors to collect in a much more concentrated form than under the old conditions of the open machine. I am not advocating a return to the old system, because there can be no two opinions as to the injurious effects of this liquor on the workmen, but still the fact that the danger from fire is increased should not be ignored.

THE list of officers and firms connected with the English Rubber Manufacturers' Association which was given in the March number of THE INDIA RUBBER WORLD has proved of interest on this side, as being the first list of the sort which has been made public. The first thing that strikes one is the absence of the names of some of the largest firms, such as Warnes, the Silvertown company, North British, and Spencer Moulton & Co. Taking the large and small concerns together, it appears that only about 50 per cent. of the trade are members of the association, the rest evidently wishing to reserve to themselves liberty of action as to the conduct of their businesses. Despite of assertions to the contrary, I have reasons for believing that the attempt to get the members of the association to concur in uniform prices for certain goods has not been altogether successful, and indeed it is difficult to see how it is to be so until the particular goods are made to a standard quality or according to a definite mixing. It is easy enough to arrange a fixed selling price, but the amount of profit accruing to each firm from the sale of its goods may vary within wide limits. This of course arises from the peculiar character of rubber goods. I talked with an agent on this subject the other day, and he informed me that he could often get a higher price for an inferior rubber than for a higher class one, so much are buyers addicted to judge by appearance only. Not that they can be blamed for this, as it can hardly be ex-

pected that they should go to the expense of having an analysis made, even if they could easily find an analyst whose report would be of value or reliability. "When So-and-so can get on so well in the trade by making goods containing so very little rubber, it is no use my tying myself down to fixed prices," said a manufacturer to me the other day; and although this gentleman remains outside the association, it is pretty evident that a more or less deep-rooted suspicion exists among the members of the trade as to the possibility that a fixed price list may lead to an excess of business gravitating towards one firm to the detriment of others. There is no need to particularize in what way this may be brought about, but it is clear that the larger the margin of profit on manufactured goods the more there is to spend on the selling agent's department, and this as we all know is a very important thing.

To judge by some remarks which have been made by dealers in rubber boots and shoes in America the season has been a bad one, owing to lack of snow. On this side, however, the case is quite the reverse. Although we have not had what can be called a hard winter, such as in 1895, yet there have been several falls of snow, from December right up to the end of March, and from all sides—London, Edinburgh, Newcastle, etc.—I have heard of stocks being sold out and of prospective customers not being able to satisfy their requirements. There can be no doubt that the popularity of these goods in times of snowstorm and thaw is greatly on the increase, especially among professional men who have to be out in all weathers. The trade, however, does not seem likely in England to be more than a spasmodic one, depending largely on the state of the weather. So far there is no sign of the regular use of the "golosh" in ordinary wet weather, except in the case of a limited number of ladies, so that it is not surprising that, when a sudden demand arises, the retail dealer who only keeps a small stock finds himself quickly cleaned out. By the time he has got a fresh consignment the snow is gone, and the intending buyer puts off making his purchase.

WHILE waterproof clothing may be said to be the principal feature of the Edinburgh rubber works, the mechanical rubber trade is more prominent in the Glasgow rubber business. The works of the Clyde Rubber Co., Limited, at Port Dundas, as also those of Messrs. George MacLellan & Co., at Maryhill, are entirely in the mechanical rubber trade. The Clyde do a large business with the railway and steamship companies, and from the nature of their business it is evident that the rubber railway buffer—perhaps I ought to say the good quality buffer—is certainly not going out of use. The third Glasgow factory is that of Messrs. Achnach & Co., where the principal business is that of waterproofing. As in other rubber manufacturing centers, there are in Glasgow some firms who buy the proofed cloth and make it up into garments, but I do not class these in the category of rubber manufacturers, even when the rubber solution for jointing is made on the premises.

THERE is no sign of the decline in popular favor of the waterproof printed in colors, though it was thought that it might prove only the fashion of a season. The times have changed from when a waterproof was considered only for its rain repellent properties. Now it is rather a matter of appearance, at least in the ladies'

FIRES IN
RUBBER
FACTORIES.

RUBBER
FOOTWEAR
TRADE.

GLASGOW
RUBBER
INDUSTRY.

WATERPROOFS
IN COLORS.

trade. Among other firms, Messrs. Mandleberg and Messrs. Gotliffe have this season produced some very artistic goods in this line. With regard to the processes by which this printing in colors on the rubber is effected, there have been several patents taken out, as to the validity of which there is some question. A good deal will depend upon the result of the Frankenburg and Moseley dispute, which is still *sub judice*, and any further comment I may feel inclined to make had better, therefore, be deferred.

THE action brought by the Dunlop Pneumatic Tyre Co., Limited, against Messrs. Moseley, in respect to the manufacture by the latter of the Warry tire, has been settled out of court, and no details have been made public. The same result has occurred in the case of a claim for defective proofing brought against the Silvertown company.

THE activity among chemists and rubber experts with regard to recovered rubber compounds continues unabated. I hear that

SUITS CLOSED
OUT OF COURT.

Dr. C. O. Weber has got a new method for recovering rubber, and that a plant is being put down for making it on a large scale. Last February a company with a capital of £15,000 was registered to work the secret process of Mr. Heyl-Dia for recovering rubber. The company is known as The Dialene Co., Limited, and among its directors and subscribers are to be found the names of some of the prominent rubber men of the Manchester district, notably Mr. Frank Reddaway, of belting fame; Mr. W. H. Cresswell, of the Hyde Imperial Rubber Co., and the inventor himself. The objects of the company are to manufacture "dialene" for insulating and other purposes, and also to act as general rubber manufacturers. As all the gentlemen connected with the new concern have hitherto made money in what they have undertaken, it is reasonable to surmise that there is something good in "dialene," though it is too soon yet to say definitely whether its future is assured; certainly there have been enough failures in the way of recovered rubbers or substitutes of late years to make the investor exhibit a certain degree of caution in dealing with such issues.

THE recent appointment of Director S. Seligmann, of the Continental Caoutchouc and Guttapercha Co. (Hanover), as expert to the German home, office is not without interest as evidencing a somewhat new departure, at any rate to us in England. Presumably the holder of the position advises the government with respect to factory legislation where it concerns our trade, though it strikes the outsider that the services of an expert who is not connected in any way with the profits of the business would perhaps be more desirable in the interests of those whom the law seeks to protect. Our home office might do worse than take a note of this appointment, because the way the rules respecting the use of carbon bisulphide were drawn up two years ago was severely commented upon both by the manufacturers who had to obey them, and the factory inspectors who had to enforce them.

THE Hyde Imperial Rubber Co. is situated at Woodley, some two miles from the manufacturing town of Hyde, in North Cheshire, and it has been principally connected with the tire trade. At the formation of the Amalgamated Tyre Co., a year or two ago, with a capital of £1,000,000, the rubber works were included in the new company, but since the Tyre company got into low water the rubber company has again become an independent concern, under its original management. At the present time they are full of work in the tire and hose departments. This firm also manufacture

golf balls, a department not touched elsewhere in the Manchester district, and in this article they do a large American trade. At the present price of Gutta-percha there does not seem the remotest chance of a first quality ball being put on the market at 6 pence, though the golfer is always crying out for it. The crude gutta, as is well known, loses a good deal in cleaning, and then for the golf ball manufacture the resins, amounting to from 20 to 35 per cent., have to be extracted, a proceeding which is not necessary in the submarine cable industry. Talking of Gutta-percha, reminds me that the Gutta Percha Corporation, which was floated in London with such a flourish of trumpets, has gone into liquidation preparatory to reconstruction, and it will be rather interesting to watch the new development of this rather dubious concern.

ANOTHER company whose progress has not kept pace with the optimistic prognostications of its chairman, Lord Fingall, is the Fish Oil and Guano Co., with which the Volenite Co. is closely connected. A rubber man informs me that nothing is known of this latter company at Alfreton, although at the recent annual report it was stated that the works there were rapidly approaching completion. I only give this information for what it is worth, and without taking any responsibility for its accuracy or otherwise, but so far from what I have heard of "volenite" there does not seem to be a gold mine in it for the shareholders.

THE Lord Chief Justice's corruption bill, which has passed its second reading in the House of Lords, strikes a blow at what is undeniably an existing evil in connection with the majority of our industries, though there would be even more scope for its operations in other countries, notably Prussia and Spain. The bill aims at making it penal for an employé of a factory to receive a bribe from firms supplying goods, though as such transactions have always been carried on in an underhand way it will probably be found that the evil is an extremely difficult one to stamp out. In a great many cases it would seem that the masters are largely to blame for not looking more closely into matters. Human nature being what it is, it is not surprising that subordinates, such as clerks and foremen, who are none too well paid as a rule, fall victims to the offer of gold and act in a way which is contrary to the best interests of their employers. The bill probably will have more effect on the offerer than the acceptor of the bribe, on account of the greater stigma which attaches to the conviction of a trader than to the conviction of a more or less obscure employé. One often hears it said by a trader that he has no chance of doing business unless he offers bribes, and, unfortunately, there is but little reason to doubt the substantial accuracy of the statement, and it is assuredly in the best interests of the community that every effort should be made to back up Lord Russell's attempt to cleanse this particular Augean stable.

ONE of the most difficult problems that the rubber analyst can be confronted with is to determine the nature of the lead compounds in a rubber mixing. According to English practice a compound such as a buffer may contain litharge, red lead, and white lead, all together. The exact reason for using these bodies in conjunction would probably be found difficult of explanation and in many cases the only reason seems to be that the mixing has the merit of antiquity and, having given satisfaction in the past it, is considered inadvisable to change it. However, signs are not wanting at the present time that there is a tendency to discard the use of red and white lead, and to use litharge alone for all purposes. The bulk of litharge which is sold to rubber

LEAD IN
RUBBER
COMPOUNDS.

GOVERNMENT
RUBBER EXPERTS.

GUTTA-
PERCHA.

works certainly has long exceeded that of the other compounds of lead, but the disproportion will be found to have largely increased of late years. The Glasgow company which manufactured sublimed white lead (which is the sulphate, whereas the ordinary white lead is the hydro-carbonate), has now ceased to exist, but its product was for some time used with satisfactory results in rubber works. I understand that a similar product is used in the United States, and except for the fact that it cannot take up free sulphur in chemical combination as litharge or ordinary white lead can there seems no reason to question its suitability as a filling material for rubber goods. Dr. Weber, in the course of a paper in 1894, says, "The addition of red lead to India-rubber mixings is very un-

common at present, most manufacturers knowing full well the inevitable fatal influence of this compound upon rubber." I don't quite go the whole length with him, because, as I have said, the body has been in regular use for many years, and if it had been so very fatal surely this great defect could not have passed entirely without notice. It was chiefly in steam valves and railway buffers that it found employment, and it is quite possible that in other cases where the rubber is in thin films instead of compact masses any oxidizing action that it has would be much more intensified and perceptible. However, I quite agree with him that its use is rapidly dying out in favor of bodies for use in this industry to which no suspicion attaches.

OTHER RUBBER NOTES FROM EUROPE.

DIVIDENDS OF GERMAN COMPANIES.

THE United Berlin-Frankfort India-Rubber Co. have declared a dividend of 5 per cent., against 7 per cent. last year, their business having been unfavorably affected by the burning of their Gelnhausen works.

The Continental Caoutchouc and Guttapercha Co., of Hanover, Germany, have declared on the past year's business a dividend of only 40 per cent., against 55 and 50 per cent. in the two years preceding. They have, however, written off a liberal amount for depreciation and added 75,000 marks to the workmen's funds.

GERMAN TARIFF ON RUBBER GOODS.

THE committee of economic experts for the preparation of trade political measures for the German empire has finished a new tariff schedule, which differs considerably from that at present existing. It consists of seventeen divisions, one of which is devoted to "Rubber and Gutta-percha goods, including oilcloths." Judging from the demands which the German rubber manufacturers have made for higher protective duties, particularly with regard to the heavy imports of rubber shoes from Russia, it is probable that the new schedule has been framed to meet their wants. The new schedule has not yet, however, been enacted into law. Director S. Seligmann, of the Continental Caoutchouc and Guttapercha Co., has been designated an expert on Caoutchouc and Gutta-percha, to work in coöperation with the committee mentioned.

GROWING DEMAND FOR MACKINTOSHES.

THE eleventh annual report of J. Mandleberg & Co., Limited, mackintosh manufacturers, of Manchester, England, shows a net profit for 1899 of £35,841 11s. 3d., against £27,785 in 1898. This favorable result, in face of the advance in the cost of India-rubber and other raw materials, is attributed to the continued growth of the demand for their special manufacture in all parts of the world. Dividends were declared of 7 per cent. on the preference shares and 12½ per cent. on the ordinary, the disbursement amounting to £19,900.

GOOD PROFITS ON ASBESTOS GOODS.

THE board of directors of the Frankfurter Asbestwerke Aktiengesellschaft, vormalis Louis Wertheim, at Frankfort-on-Main, at the assembly of shareholders held on April 9, proposed the distribution of a 12 per cent. dividend on the past year's business, against 10 per cent. for 1898. It is intended to have the company's shares listed on the Frankfort bourse. The asbestos and asbestos-rubber goods manufactured by this company are sold in the United States by A. Kern & Co., No. 86 Cedar street, New York, representatives for the eastern states,

and by the Advance Packing and Supply Co., Chicago, representatives in the western states.

TO STOP PRICE CUTTING ON RUBBER SHOES.

CONCERTED action has been taken by the leading shoe factors in Scotland, to arrest the price cutting on rubber shoes, which is reported to have reached such proportions as to leave the business without any profits. An agreement has been signed by the shoe distributors, effective from March 1 to the end of 1900, not to sell the products of the North British Rubber Co. below a minimum scale of prices annexed to the agreement, under a penalty of £50 (= \$250).

RUBBER AND OTHER INSULATION IN ENGLAND.

A WRITER in *The India-Rubber Journal* repeats a report, though he does not undertake to vouch for its accuracy, that 75 per cent. of the electric light cables being laid at the present time in English towns are insulated with substances other than rubber, the two firms most prominently engaged in this business being Callender and the British Insulated Wire Co. The same writer is of the opinion that the rubber cable manufacturers, or at least some of them, are primarily to blame for this state of things, on account of having put upon the market rubber insulation of an undesirable quality. The British Insulated Wire Co., by the way, have been increasing their capital stock, the additional shares offered to the public having been largely over subscribed.

THE GUTTA-PERCHA CORPORATION.

A REPORT has come to hand of proceedings for the voluntary winding up of the Gutta-percha Corporation, Limited, the recent troubles of which were referred to in the last INDIA RUBBER WORLD. C. H. Hayes, of 28, Basinghall street, London, who had filled the position of receiver since November, has been appointed liquidator, and authorized to consent to a reorganization under the name of the New Gutta-percha Corporation, Limited, or some other suitable title.

BRITISH EXPORTS OF RUBBER GOODS.

THE exports of domestic manufactures of India-rubber from Great Britain during two years past have been as follows, the figures in sterling being quoted from *The India-Rubber Journal*, and converted into United States currency at \$5 to £1:

	1898.	1899.
English money.....	£1,328,702	£1,390,761
American money.....	\$6,643,510	\$6,953,805

TIRE PATENTS INVALID.

THE Austrian ministry have declared the Austrian patents on the Dunlop tire to have expired, this ruling being the result of an action brought by two Viennese firms for nullification of the patent rights.

CRUDE RUBBER AND PLANTING INTERESTS.

NEW RUBBER TREES IN BRAZIL.

THE firm of L. P. Barretto & Son, horticulturists, Sao Paulo, Brazil, have issued a circular relative to the trees producing the variety of India-rubber described in the markets as "mangabeira," which has been ascribed hitherto to the tree known as the *Hancornia speciosa*. The Messrs. Barretto, however, indicate the existence of at least three species:

1. *Hancornia speciosa*, the species already well known.
2. *Hancornia* species not named, with a globular fruit, new; from the coldest zone of the state of Sao Paulo.
3. *Hancornia Barrettoi* (Nandin), recently discovered, from the warmest zone in the state. "It is the king of rubber-trees, giving up to 15 kilograms of the finest rubber from one incision."

The firm above named recommend the *Hancornia* for extensive culture. "While the *Hevea*, like the *Manihot Glaziovii* [Ceará rubber], cannot go far from the tropics, under the penalty of perishing, or of giving poor results, the *Hancornia* stretches from the equator to the thirty-sixth parallel south; it braves the tropical sun as well as the frost of our cold temperate zone. The *Hevea* requires soil rich in humus and in water. They have aquatic roots three quarters of the year. The *Hancornia*, on the contrary, require poor dry soil; prolonged damp kills them."

The *Diário de Noticias*, of Bahia, reports the discovery that rubber of a superior quality can be obtained from a tree which is abundant in that part of Brazil, being known locally by the name "pecambira."

TROUBLE IN THE ACRE RUBBER COUNTRY.

REGARDING the political disturbances which of late have interfered with the exportation of rubber from the Acre country in eastern Bolivia, *The Brazilian Review* (Rio Janeiro) says: "For years the disputed territory drained by the river Acre had been exploited for rubber by natives of the Brazilian state of Ceará, assisted by capitalists of Pará and Manáos, long before the treaty between Bolivia and Brazil determined the frontier line. All this time it was a kind of 'no-man's-land,' a rubber paradise without taxes or tax collectors. When the Bolivians started their custom house at Puerto Alonzo all this was changed, and the idea of resistance to Bolivian fiscal exaction found ready acceptance both among the hardy rubber collectors themselves, who regarded the country as theirs, and among the capitalists at Manáos, who were threatened with the loss of a profitable trade. It was at this psychical moment that, after vain attempts to inveigle the United States authorities into the intrigue, the idea of a free state was started, with Galvez at its head." Braga has since become president of the new state of Acre. This district is too remote from the Bolivian seat of government for restrictive measures to be effective from that direction, and the *Review* thinks that unless the Brazilian government interferes, the *imperium in imperio* may go on indefinitely. Our Rio contemporary regards the Acre authorities as a band of vampires whose only idea is to fatten on the plunder of the industry of others—the rubber collectors.

The *Folha do Norte*, of Pará, says the population of the Acre district is reckoned at 18,000, mostly Cearenses. There are only two *seringais* (rubber "farms") in the district belonging to Bolivians. The Cearenses adhered to Galvez's proclamation of a free state rather than come under Bolivian jurisdic-

tion; but they prefer to remain Brazilian "to the end of the chapter." It is stated that more rubber has been collected this year than last in the Acre district, though it is probable that less will reach the market on account of the disease that attacked the mules, the only means of transport to the rivers. Commodities are very dear, dried meat costing 12 milreis per kilogram, bacon nearly as much, eggs 1 milreis each, and beer 4 milreis per bottle. [The milreis was quoted lately at $8\frac{1}{4}$ d., equal to $16\frac{1}{4}$ cents.] On the other hand, rubber workers can gather from 6 to 25 kilograms (=13.2 to 55 pounds) a day.

The Argentine consul at La Paz reports the following exports of India-rubber from Bolivia for 1898:

PORTS.	Kilos.	Bolivianos.
Acre.....	2,000,000	8,695,600
Villa Bella.....	757,444	3,293,000
Puerto Perez.....	256,542	1,115,400
Puerto Suarez.....	27,556	119,300
Total.....	3,041,542	13,223,300

The boliviano is estimated as worth 40 cents in United States gold, making a total value of \$5,289,320 for the above.

PROFITS ON RUBBER IN BRAZIL.

AT least one of the public companies floated in England to exploit rubber in Brazil seems to be able to show some profits. The report of the directors of the Amazonia Rubber and Trading Co., Limited, for 1899, submitted at the meeting held in London recently, stated that the net profit amounted to £3299. The directors recommended a dividend at the rate of 20 per cent. per annum on both preference and ordinary shares, placing £250 to reserve fund and carrying forward £349.

RUBBER PLANTING NOTES.

THE Mexican Gulf Agricultural Co., whose headquarters are at Kansas City, Mo., advise THE INDIA RUBBER WORLD that they now have 500,000 rubber trees (*Castilloa elastica*) on their plantation in Mexico, four years old, and all doing well.

=F. E. Jones, of Houston, Texas, owns a plantation near Coatzacoalcos, Mexico, from which the first crop of coffee was gathered recently. He has also planted 10,000 rubber trees, now from one to three years old, at the rate of 200 to the acre, with the idea of waiting until they are eight years old before tapping them.

=Ashmore Russan, of London, was a recent visitor to the offices of THE INDIA RUBBER WORLD, as he passed through New York on his way to Mexico, to investigate the India-rubber planting situation, in the interest of various British capitalists.

=The forty-sixth annual report of The Planters' Association of Ceylon quotes, as a matter of interest, the references to India-rubber culture in the last annual report of the secretary of agriculture of the United States.

=John C. Macdonald, described as a rubber planter from Honduras, was reported lately in Cuba, with a view to studying the possibilities of the industry there.

=Two cultivated rubber trees (*Ficus elastica*) at Cairo, Egypt, twenty-eight to thirty years old, yielded recently on being tapped moderately, $2\frac{1}{2}$ and $5\frac{1}{2}$ pounds of rubber, respectively. Three trees, tapped in 1898, yielding $10\frac{1}{2}$ pounds of rubber, which sold for 3s. 3d. per pound, yielded last year only $5\frac{1}{4}$ pounds. Nearly 3000 cuttings of *Ficus elastica* were put out in the spring of 1899. Several thousand had previously been put out. No success has been attained in planting the seed.

JOTTINGS BY THE TRAVELING EDITOR.

I MUST confess that in the beginning I had a very definite prejudice against "Oxolin." The samples that I had seen, that is, the first samples, were far from satisfactory.

Where the material had been spread upon cloth, it could be easily removed by scraping with the thumb nail, and it had a cold, clammy, dead feeling, together with a bad odor, that stood greatly in the way of its finding a ready market. Within a few months, however, certain capitalists who are preparing to exploit the product in the United States have had a great number of samples of a variety of goods that were made in the English factory brought over here, and it has been my privilege to examine them carefully. Many of the samples, such as embossed wall coverings, are very pretty, but to the rubber man, at least, of doubtful value commercially. The most striking examples of progress, however, are the pressed and perforated mats made wholly of this material. The white mats for hansom cabs appear every bit as good as the ordinary rubber mats used for that purpose, and, according to figures shown, are very much cheaper. The oxolin mat appears a little more dense under foot and is rather heavy. A curious feature about these mats is the fact that the whites and the greens appear to be tougher than the blacks. The blacks, by the way, seem to be capable of standing a great amount of wear, but if they are bent the substance cracks. It therefore would not test as against the ordinary rubber mat in this particular, though it might wear equally well. One of the neatest samples shown is a green printers' blanket, which has a beautiful surface and, according to reports from printers in Great Britain, has proved very serviceable. Indeed, it would seem that it is particularly adapted for uses of this kind, for the reason that printers' ink can have no possible effect on a substance made from oxydized oil, while it is apt to have a certain effect upon rubber. The oxolin people have also made a great advance in single texture proofed goods. Some of their goods have a beautiful kid finish, and are almost free from odor, wholly waterproof, and show no tendency to crack. If these goods have been calendered, it is as pretty a piece of fine coating as ever was done in a rubber factory. The oxolin golf ball, made of oxolin and Gutta-percha, is apparently of the right size and weight, and exceedingly tough. It is not quite as resilient as a well seasoned gutta ball, however. As it can be sold at a very much lower price than almost any good ball now on the market, and as it will bear a great deal more punishment than remade balls, it is likely to have a larger sale than almost any other ball now offered. I have tested these balls on the Franklin Park links in Boston, and on the drive they fell but little short of the best gutta ball. These are but a few of the many samples in the lot referred to.

ONE of the easiest things in the world, on paper, is to knock out a trust. When, therefore, my friend Hopeful came to me with a new substitute, a cheap one, and with a gum that could be chewed until the jaws creaked with weariness, we felt that we had the chewing gum trust where the hair was short. The scheme was this: The basis of most chewing gum is "chicle," which, so it was said, sold for about 25 cents a pound, part of this price being the 10 cents a pound import duty. Our gum could be made for 5 cents, so we could buck chicle all right as far as price went. Like all who yearn to grow rich in a minute at the expense of others, we wanted everything in sight.

Hopeful was to get an option on a lot of chicle and we were then to let it be known very widely that we were out to manufacture chewing gum. The trust was then expected to raise the price of chicle to \$1 a pound, and we would sell out our stock of the real gum and then flood the market with the artificial product. While we planned we chewed. I noticed after a time that Hopeful began to expectorate rather freely, and to look white about the chops.

"Say," said he, finally, "do you notice a queer taste about this stuff?"

"A little," I acknowledged, reluctantly.

"I guess my stomach is a trifle off," he remarked, removing his gum and sticking it on the under side of the desk.

Soon after we separated to meet again in the morning. I didn't sleep very well that night and ate but little breakfast in the morning, for a peculiar stale, oily, nauseating taste had so taken possession of my mouth that it dominated food, drink, tobacco, and me. I fancy his mouth had the same possession, for he had only a moment to spare when we met, would wire me if anything turned up, and off he went, and I haven't seen him since.

But that is all that saved the chewing gum trust.

* * *

MR. HENRY B. CHAMBERLAIN, proprietor of the Atlas Chemical Co., at Newtonville, Mass., is about as well known as any specialty man with whom the rubber manufacturers come in contact. He and the writer have been firm friends since 1883, when they met at the office of the late Dr. Goodrich, in Akron, Ohio, both selling antimony, and each eager for an order. The writer got the order, whereupon Chamberlain in his caustic way remarked, as he handed the Doctor his card: "I shall stay in this business, and Pearson will not. You had better take my card so as to know where to find me." His prophecy proved true, as he not only has stayed in the business, but has a fine plant and a good trade, while his competitor has become only an editor.

* * *

AT no time in the past has the interest in rubber plantations been so widespread as at present. In the past, rubber manufacturers and rubber importers, the people of all others who apparently would be most interested, have looked with a great deal of scorn upon any suggestion of the use either of their time or their money in rubber planting. To-day, however, two very important rubber manufacturing concerns in the United States are owners of large plantations, containing both native and cultivated trees, while a third American concern has recently invested in a smaller plantation. I hear reports, also, of two German concerns that are preparing to go into the same line of business. The rubber manufacturers who are taking over these concessions are very shy about having their names in print, and give these facts to the Traveling Editor with the proviso that their identity shall not be disclosed.

* * *

IT is interesting to notice how special styles, particularly in rubber footwear, that once have been really popular, come back again into favor. For example, the low, self acting clog, which a number of years ago was very generally worn by men, dropped partially out of sight for a while, but it is now coming in again rapidly, and next season "kick offs" may be expected to be generally in vogue. Another shoe coming into favor is

the lumbermen's snow excluder, a very useful type of footwear, and one on which there should be a fair margin of profit.

THE most progressive leather shoemakers sometimes get out a style of shoe that is apparently a taking novelty, and yet that has a defect that is bound to make it unpopular. This was emphatically so with the Douglas shoe, with the splay heel. This heel, on a new shoe, was very attractive, and had a sensible, secure look, and they were marketed very rapidly. When, however, the wearers of them tried to get fitted to rubbers of any kind, they found it a practicable impossibility. There was not a rubber shoe made that could fit the heel nicely. When this was brought to Mr. Tinkham's attention—Tinkham being the man who steers styles at the Douglas factory—he saw the point in a flash, and changed back to the straight heel.

* * *

ONE bit of knowledge that automobile users have been awakened to lately is the fact that a battery charged to run twenty-five miles will run but ten or twelve miles with smooth tires and on a slippery road, which is a great loss of power. Furthermore, the experience of some automobilists in Stamford, Conn., which has been widely advertised, counts in favor of the non-slipping tire. It seems that their carriage began to drift before the wind and, in spite of the fact that they put on brakes, it did not stop. They did not like to run it over a fence and smash it, and so they drifted two miles, narrowly missing a railway train before they were able to stop.

RECENT RUBBER PATENTS.

UNITED STATES PATENT RECORD.

ISSUED FEBRUARY 6, 1900.

- N**O. 642,643. Implement for removing pneumatic tires. Hugh Swanton, London, England.
 642,773. Tire for bicycles. James C. Anderson, Highland Park, Ill.
 642,774. Pneumatic tire. *Same.*
 642,775. Method of making pneumatic tires. *Same.*
 642,776. Tire. *Same.*
 642,812. Yielding vehicle tire. Robert Cowen, Cambridge, Mass.
 642,813. Apparatus for cleaning rubber. *Same.*
 642,814. Process of cleaning rubber. *Same.*
 642,823. Means for attaching pneumatic tires to wheels. John K. Leary, Chicago, Ill.
 642,838. Pneumatic tire. Albert P. Cochrane, New York city.
 642,898. Elastic tread horseshoe. William H. Denman, Philadelphia.
 642,938. Tire fastener. Amos W. Warnock, Boston, assignor of one-half to Frederick E. Daggett, Malden, Mass.

ISSUED FEBRUARY 13, 1900.

- 643,246. Hoof protector. Henry Gale, Chicago, Ill.
 643,272. Cushion horseshoe. Henry Paar, Canton, Ohio, assignor to Thomas C. Snyder, same place.
 643,287. Calf feeder. Iphus H. Hall, Jr., Lyndon, Vt.
 643,357. Apparatus for setting rubber tires. George W. Keller, Akron, Ohio, assignor of one-half to Grant U. Kirn, same place.
 643,429. Pneumatic tire. Albert A. Wade, Monticello, Minn.

ISSUED FEBRUARY 20, 1900.

- 643,662. Spring horseshoe. John M. Lord, Kansas City, Mo.
 643,712. Hose reel. Edward Cliff, Newark, N. J., assignor to Cliff & Guilbert Co., New York city.
 643,715. Back for rubber stamps. Harry S. Folger, Chicago, Ill.
 643,826. Pneumatic tire. Arthur H. Marks, Akron, Ohio, assignor to the Diamond Rubber Co.
 643,856. Manufacture of cement. William A. O. Wuth, Pittsburgh, Pa.
 643,875. Vehicle tire. David N. Jordan, Providence, R. I., and Frank A. Crowell, Attleborough, Mass.

ISSUED FEBRUARY 27, 1900.

- 644,284. Elastic tread horseshoe. Charles V. DeLay, Murphy, Cal.
 644,288. Tire for wheels. Harrison C. Frost, Brookline, Mass.
 644,293. Blackboard rubber. Manfred House, Kalamazoo, Mich., assignor of one-fourth to George Houston, same place.
 644,329. Soft tread horseshoe. Anthony M. Meisner, Chicago, Ill.
 644,299. Storm apron for buggies. Robert E. Brier and William E. Clark, St. Louis, Mo.

ISSUED MARCH 6, 1900.

- 644,613. Tire for bicycle or other vehicle wheels. William Lennard Foote, New York city.
 644,696. Piston rod packing. Frederick F. Swain, Chicago, Ill.
 644,879. Rubber tread horseshoe. William P. Strawmyer and Otto Nilius, Indianapolis, Ind.

ISSUED MARCH 13, 1900.

- 645,068. Boot or shoe. William N. Button, Providence, R. I., assignor to the Joseph Banigan Rubber Co.
 645,193. Cushion horseshoe. Allen Simmons, Boston, Mass.
 645,310. Wheel tire. William Corliss, Providence, R. I.
 645,347. Pneumatic tire. Hannibal Buchignani, Lexington, Ky.
 645,481. Cushion tire. Stephen S. Miller, Akron, Ohio.

ISSUED MARCH 20, 1900.

- 645,844. Tire for vehicles. Calvin T. Adams, New York city.
 645,919. Toy. Thomas Holmes, New York city.

ISSUED MARCH 27, 1900.

- 645,965. Cushioned horseshoe. Thomas J. Lovett, Chicago, Ill., assignor to the Budd Doble Tire Co., New York.
 645,966. Cushioned horseshoe. *Same.*
 646,029. Soft tread horseshoe. Michael Long, Tyrone, Pa.
 646,140. Wheel tire. William Corliss, Providence, R. I.
 646,141. Pneumatic wheel tire. *Same.*
 646,213. Horseshoe and pad. Michael Hallanan, New York city.
 646,214. Foot covering for horses. *Same.*
 646,234. Rubber cushion horseshoe. Henry Paar, Canton, Ohio, assignor by mesne assignments, to the Paar Double Cushion Horseshoe Co., same place.
 646,274. Vehicle tire. Harvey S. Firestone, Chicago, Ill.
 646,402. Cushion tire. Webber G. Kendall, Providence, R. I., assignor to the Kendall Rubber Tire Co., Portland, Me.

DESIGN PATENTS.

- 32,204. Horseshoe pad. Henry Paar, Canton, Ohio, assignor to John L. Arnold, same place. Issued February 6.
 32,363. Heel lift. Frank C. Morgan, Chicago, Ill. Issued February 20.
 32,346. Horseshoe pad. James Kronenberg, New York city. Issued March 13.
 32,347. Rubber tire. Stephen S. Miller, Akron, Ohio. Issued March 13.

TRADE MARKS.

- 34,181. Horse covers. Pittsburgh Waterproof Co., Pittsburgh, Pa. Essential feature, the word "Stag." Issued February 13.
 34,182. Horse covers. Pittsburgh Waterproof Co., Pittsburgh, Pa. Essential feature, the figure of a deer. Issued February 13.

THE existence of a porous state in the substance of rubber articles [says Dr. E. Schultze in the *Gummi-Zeitung*] often has its explanation in the circumstance that the caoutchouc has been treated too long a time at certain temperatures, and yet no vulcanization occurs in the given mixture. The caoutchouc only softens and becomes capable of taking up water, the subsequent evaporation of which will cause such porosity. A very trifling addition of lime hinders the formation of a porous condition; not, however, by its capacity to combine water, but by its power to expedite the process of vulcanization.

RUBBER TIRE SITUATION IN ENGLAND.

BY AN ENGLISH CONTRIBUTOR.

THE Dunlop Pneumatic Tyre Co., Limited, have arranged to manufacture all of their patent tire rubbers in their own new factory at Birmingham, in conjunction with the factory of the Rubber Tyre Manufacturing Co., a company promoted by the Dunlop interests. The combined production of these two factories is probably about 1,250,000 tire covers and the same number of inner tubes per year. These figures agree pretty closely with the volume of sales of the Dunlop company, who issue yearly from their workshops at Coventry to accredited depots from 1,250,000 to 1,500,000 finished tires.

The existing monopoly of the patent wired on cover, and of the "Clincher" cover as well, prevents some eight other large English rubber factories from working on covers to any great extent, except on cover material for export, which makes a good line in several factories. The North British Rubber Co. turn out an enormous number of "Clincher" pneumatic tires, but they do this under a special license from the Dunlop people. The other large British rubber factories are thus compelled to stand in leash for the next four years, so far as tires are concerned, but when the two patents lapse it now appears more probable that the cover and tube manufacture will be captured by the old companies than that it will remain under the control of the Dunlop company.

It must be clearly understood that there is no monopoly of air tubes made up by hand in the ordinary manner. It is estimated that the British production of air tubes reaches 4,000,000 a year, including the Dunlop company's 1,500,000. With the Dunlop patents no longer in force, some keen competition may be expected in order to capture their line, and the best organized factories and the most skillful makers are likely to win the trade. Several British factories known to the writer produce air tubes superior to the monopoly controlled factories. An American factory (at Akron, Ohio) produces one of the very best air tubes offered in this country, and it need not be surprising if the Americans should enter this field on an important scale when the Dunlop patents shall have expired.

The withdrawal of the Dunlop company's rubber work from such old established factories as Moseley's and Macintosh's at Manchester and Bates' at Leicester—the share of a single one of these concerns was reported at £100,000 a year—while it liberates these firms for other orders, does not benefit the Dunlop company to the extent that one might suppose. The withdrawal avowedly was for the purpose of preventing irregularities—hardly real, but rather supposed irregularities—in the manufacture. But already it is reported in the trade that irregularities in the quality of these goods as now made are as great or greater than before.

Two substances not yet been described in print are a sulphur and wax compound called "Nantusi" and a glue compound, named "Molloid," which one of the Dunlop managing directors, in league with a pharmaceutical chemist, is said to be marketing in large quantities to the Dunlop factories. It will be interesting to see the effect of sun and air upon rubber goods made up with waxy and gluey compositions. What surprises English rubber men most of all is that this pharmaceutical chemist should turn aside from his own valuable business, which he understands, to interfere unwarrantably with a business which he does not understand, and in which India-rubber chemists have invested money and years of toil. Naturally enough rubber manufacturers throughout the country are incensed. It is a case in which one man sows and another reaps.

However, we shall shortly get a new public companies law,

for the lord chief justice of England says that there is an urgent need of a measure to compel men to bring reasonable skill and knowledge to the matters that they undertake, to enforce the rules of common honesty in the carrying on of companies, to prevent or narrow the area of fraud, and to put a stop to secret profits.

A GERMAN RUBBER WORKERS' FESTIVAL.

THE following interesting account of the recent annual festival of the employes of the rubber works of Dr. Heinrich Traun, of Hamburg, Germany, is supplied by a correspondent of the *Nachrichten* newspaper of that city:

"With gratitude I accepted an invitation forwarded me by the amiable proprietor of the Harburg Rubber Comb Co., Dr. Heinrich Traun. An accompanying circular stated that the workmen of the factory, with the aid of the proprietor, arranged this festival annually to strengthen the feeling of close relationship of all the employes, and to enable the members of the music and athletic clubs formed from the workmen, to display the advances made by them during the year. It was further pointed out that a visit to this festival would give an idea of the social life of the workmen in general, and of the workmen of the respective factories especially—sufficient cause to look forward to it, more so, as it is generally known that the proprietor of this factory enjoys the enviable reputation throughout Germany of living in perfect harmony with his employes, well versed in the social question, treating it practically and successfully, ever extending a warm heart to all just demands of his workmen. With great expectations therefore I entered Sagebiel's establishment on Saturday evening.

"The appointed hour was 8.30 P. M., the public being prompt in their arrival to celebrate the *gummi-ball*, to which they had looked forward for almost a whole year. Dr. Traun employs in the two factories 1400 people, and because Sagebiel's establishment is inadequate to accommodate so great a number, the workmen of the Hamburg factory hold their annual festival here in winter, while those of the Harburg plant celebrate theirs in summer. On entering the white salon I was astonished at the outward appearance of the guests, denoting prosperity, sufficiency, and contentment. It was notable that the men were all dressed in black coats and immaculate linen, many of them wearing the medal of the patriotic society, an insignia of many years' employment with the same firm. The young girls were almost too fashionably dressed for the class to which they belong in life. The quiet self-possessed behavior of the assemblage was very striking—no crowding for seats, loud conversation or disputes in regard to seats—comparing well with that of the better class at a concert or theater.

"First on the program was a concert by an orchestra, composed of fifteen musicians of workmen; their fine brass instruments having been donated by their employer, who also engages their teacher. Their renditions were loudly applauded. Next came athletic exhibitions, which were the crowning glory of the evening, the feats comparing well with those of professional acrobats, and the participants representing typical German youth and manhood of which we may well be proud. After this the singing societies, composed of pure, musical male voices, filled the hall with their melodies, which won the hearty appreciation of the silent listeners. The program closed with a student comedy, in which the students, wearing rubber cloaks, sit in judgment over a usurer who holds their favorite innkeeper in his claws. This also received a well merited applause. The program being ended the ball opened, the *polonaise* being led by the son and daughter of the pro-

prietor, and then the dance, all ages being represented. The pauses were taken up by songs rendered by the singing societies; sandwiches and refreshments being served to keep up strength and spirit. The proprietor mingling with the assemblage, exchanged salutations here and there and showed his appreciation by word and mien. Taking my departure at a late hour I was fully satisfied that as long as such festivals are celebrated by employer and employé alike, so long will it be a barrier against the class hatred and socialistic agitators."

Under the heading "A German Rubber Factory and Its Owner" THE INDIA RUBBER WORLD of February 15, 1894, published a sketch and portrait of Dr. Traun and an account of his studied efforts in behalf of the best interests of his employes. On October 10, 1895, was published a description of the "Factories of The Harburg Rubber Comb Co.," with illustrations.

AMERICAN RUBBER GOODS EXPORTS.

RETURNS have now come to hand of exports of rubber goods from the United States for eight months of the current fiscal year, the values being as follows:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
July, 1899....	\$51,535	\$22,580	\$ 99,918	\$174,033
August	59,069	43,378	102,264	204,711
September....	42,858	34,233	122,959	200,050
October.....	52,643	34,894	106,223	193,760
November....	33,913	47,898	120,221	202,032
December ..	39,051	40,426	101,771	181,248
January, 1900.	40,137	30,452	94,886	165,475
February....	38,724	27,246	128,017	193,987
Total.	\$357,930	\$281,107	\$876,259	\$1,515,296

The exports of rubber goods of all kinds for the corresponding eight months of 1898-99 reached a total value of only \$1,087,718. The rate of increase is over 39 per cent. The exports of rubber shoes during the eight months amounted to 530,071 pairs, against 362,008 pairs in the first eight months of the preceding fiscal year—an increase of more than 46 per cent.

The exports of such goods during the same period of eight months to the islands mentioned below were as follows:

ISLANDS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
Cuba	\$30,796	\$1,860	\$17,155	\$49,811
Puerto Rica...	1,514	170	2,583	4,267
Hawaiian Is..	11,175	2,510	24,376	38,061
Philippines...	43	30	721	794

"SHOE AND LEATHER REPORTER" ANNUAL.

THE importance to the rubber shoe industry of the leather shoe trade as a channel for the distribution of its products, renders of much value to rubber manufacturers, jobbers, and dealers, this standard publication, now established for upwards of a quarter century. The "Annual" for 1900 comprises 694 large pages, in which the compilers have sought to register, accurately and up to date, the names of all the shoe manufacturers, tanners, leather and hide dealers and firms in the collateral branches in the United States, besides the great bulk of retail shoe dealers in this country, and the principal houses in the trade abroad. In addition to this very compre-

hensive directory, there are trade reviews, delineating the course of prices and of supply and demand for 1899, with figures for comparison with former years. There are likewise tables of exports and imports, lists of officers of all the trade organizations, facts about several of the great corporations which occupy a commanding position in the shoe and leather trades, etc. This substantial volume is distributed gratuitously to subscribers to *The Shoe and Leather Reporter*, now in its forty-third year, published at No. 17 Spruce street, New York.

LITERATURE OF INDIA-RUBBER.

THE *Bulletin* of the Société des Ingénieurs Civils de France for March, 1900, is devoted to an important extent to a memoir on the French Soudan by Monsieur H. Hamet, including a comprehensive report on the occurrence and production of India-rubber in that region. Statistics showing the rate of development of the rubber production in the Amazon basin, and more recently in the Congo Free State, are presented, as indicating the possibilities of the Soudan. Several rubber yielding species native to the Soudan are enumerated, including the lately much described "gohine" vine, which seems to be the *Landolphia Hendelotii*. The various methods of extraction and coagulation are treated, and plates given showing the construction of a mechanical device resembling somewhat the centrifugal coagulating machine of R. H. Biffen. The paper concludes with an interesting note on the treatment of the dry or dead bark of rubber plants for the extraction of Caoutchouc.

UNDER the title "Plantes Produisant le Caoutchouc du Commerce," Dr. Daniel Morris's "Cantor lectures" on the "Sources of Commercial India-Rubber," reviewed in THE INDIA RUBBER WORLD of November 1, 1898, have been translated into the French by Léon Pynaert, lately appointed director of the new botanic garden at Coquilhatville, Congo Free State. [Brussels: 1899. 8vo. 98 pages and plates.]

IN CURRENT PERIODICALS.

LA Gutta-percha a la Grande Comore=*Revue des Cultures Coloniales*, Paris. VI-49 (March 20, 1900.) pp. 175-176.

Die Kautschuk production in Mittelamerika mit besonderer Berücksichtigung von Costarica. By Th. F. Koschny, San Carlos, Costa Rica. =*Der Tropenpflanzer*, Berlin. IV-4 (April, 1900). pp. 174-176.

SOME WANTS OF THE RUBBER TRADE.

INQUIRIES.

[97] A CORRESPONDENT writes: "Will you kindly give us the names of a few firms who handle Gutta-percha chips?"

[98] "Please give us the names of some importers of crude India-rubber in New York and Boston."

[99] From Galveston, Texas: "Can you give us the names of the manufacturers of mackintoshes, both inside and outside of the Rubber Clothing Manufacturers' Association?"

[100] "Kindly advise us where we can buy a varnish for rubber shoes."

[101] From Germany: "Will you kindly send us the name and address of the manufacturer of Caldwell's spiral gas tubing? We have had several inquiries in regard to that firm."

ANSWERS.

[96] The Combination Roll and Rubber Co., Bloomfield, N. J., write that they are prepared to make molds for rubber horse shoe pads.

NEWS OF THE AMERICAN RUBBER TRADE.

UNITED STATES RUBBER CO.

THE annual meeting of stockholders, for the election of directors and for the transaction of any other business that may properly be brought before the meeting, will be held at the registered office of the company, in New Brunswick, N. J., on Tuesday, May 15, at 12 o'clock, noon. The transfer books, closed on April 14, will reopen on May 16.

The board of directors, at a meeting on April 5, declared the regular quarterly dividend of 2 per cent. on the preferred stock of the company, payable on April 30, to stockholders of record on April 14, the same being the third dividend for the fiscal year. The board also declared the fourth quarterly dividend of 1 per cent. on the common stock, for the same period, payable on the same date.

Charles R. Flint is quoted as follows in the *Wall Street Journal* of April 10: "It is true that in the early part of the winter the weather was unfavorable, but in February and March there was a great deal of snow throughout the country generally and the earnings for those months were very satisfactory. As a matter of fact, however, only 25 per cent. of the company's business depends upon snow. A very large part of the trade is in lines unaffected by the severity of the winter. For instance, miners are among our best customers, as are also fishermen while in the country a great deal of rubber footwear is used even in the summer months, and especially in view of the increased prices now ruling for leather. There is, for instance, a large demand for rubber sole shoes at the present time. It should also be remembered that in the early part of the company's fiscal year business was very good."

THE BOURN RUBBER CO.

THIS name has been adopted for the business of Augustus O. Bourn, of Providence, R. I., conducted hitherto as the Providence Rubber Shoe Co. This appears most appropriate, for the reason the business was founded and is owned wholly by ex-Governor Bourn, and further because its continuance is assured years hence under the management of his son Mr. Stephen M. Bourn, an active and capable young man who is at present the assistant superintendent at the Providence factory.

BYFIELD RUBBER CO. (BRISTOL, R. I.)

THE factory resumed work on April 2, the ticket including liberal orders for tennis goods, arctics, and rubber shoes. The tennis orders are said to be large enough to keep this department running for four months. Superintendent Terrence McCarty has purchased three lots adjoining the factory premises, two 50x173 feet each, and one 70x158 feet. While no definite information has been given out, the impression prevails that the company intend enlarging their plant, the present capacity having become inconveniently small, in view of the steady growth of their business. An extension which will give the factory a capacity of 20,000 pairs per day is talked of.

LYCOMING RUBBER CO. STILL BUILDING.

THE Lycoming Rubber Co. (Williamsport, Pa.) are adding to their factory a three story brick building 60x43 feet, and also a new office building. The big smoke stack will be increased in height fifty feet. They are also adding a four roll calender and mills, which will double their capacity of one year ago. Readers of THE INDIA RUBBER WORLD will remember that in January, 1899, was published an article on extensive additions to the Lycoming plant. The building now

in progress not only increases the plant materially, but makes good the damage occasioned by fire on January 8, 1900. The factory is not now running, but will resume operations about the middle of the current month.

THE L. CANDEE & CO.

THE grinding department resumed work on April 2, the cutters were at work on the following day, the boot and shoe makers began to "set up" on the 4th, the making of goods began on the 5th, and the packers were at work on the 6th. Superintendent Ames said that the outlook for work during the spring and summer was very good. The company have not yet completed the new electric power and lighting plant mentioned several months ago in THE INDIA RUBBER WORLD, owing to the delay of the contractors in supplying the machinery.

GLENDALE ELASTIC FABRICS CO.

AT the annual meeting of this company, at Easthampton, Mass., on Friday, March 30, a dividend of 7 per cent. on the past year's business was declared. The election resulted: President, William G. Bassett; treasurer, Joseph W. Green, Jr.; directors, S. T. Seelye, William G. Bassett, John Mayher, Harry E. Converse, George A. Alden, William Rapp, J. W. Green, Jr.

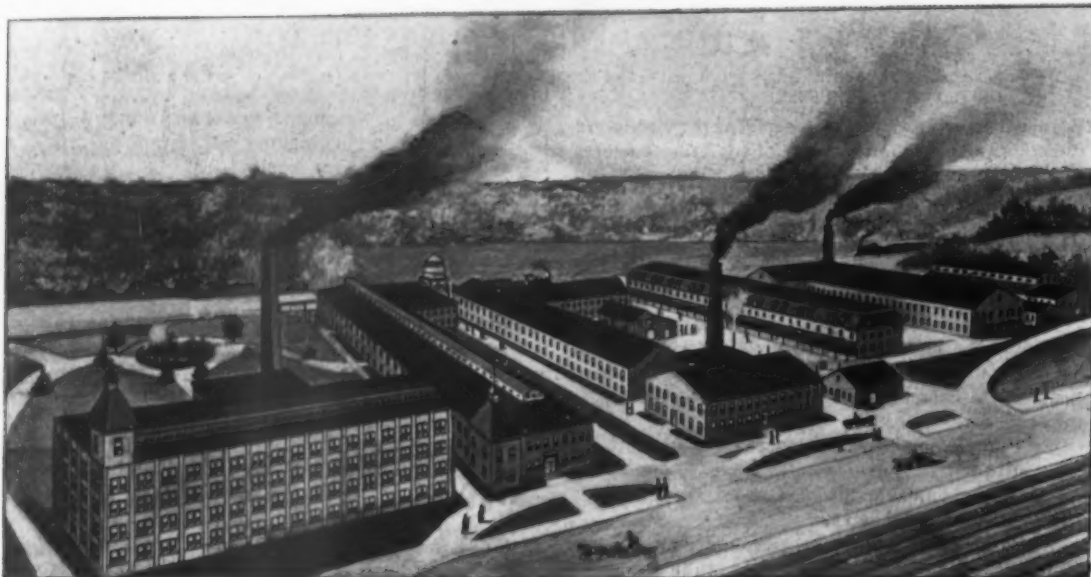
The company have been extending their plant very largely of late. A new mill is being erected, and the machinists in their employment are reported to have begun work on 100 additional looms.

CONSOLIDATED RUBBER TIRE CO.

A PROTECTIVE committee has been formed at the request of holders of a large amount of the stock of this company—who control the Kelly-Springfield solid vehicle tire—for the purpose of securing information as to the organization, methods of capitalization and business management of the company, with a view to recommending such changes or proceedings as may seem for the best interests of the stock. The committee is composed of Frank Tilford, George R. Sheldon, and A. R. Pick, of Hallgarten & Co., all of New York. The annual meeting of the company, it is expected, will be held on May 7, and the committee invites stockholders to deposit their stock, properly indorsed and accompanied by a proxy, with the City Trust Co., which will issue negotiable receipts therefor. If, after investigation, a formal protective agreement shall be deemed necessary, the same will be submitted to the stockholders. Any stockholder who may refuse assent to such agreement may withdraw his stock without expense.

An advertisement in the newspapers to the above effect has called forth a statement to the stockholders from Isaac L. Rice, president of the company. Included in the statement is a report of the company's condition at the beginning of the present year, prepared by the Audit Co. of New York, which showed that at that date the company's profit and loss account showed a balance of over \$103,000, and that the excess of current assets over current liabilities amounted to over \$780,000. In addition, President Rice states that the earnings of the company during the first three months of this year were in gross 60 per cent. over those of the same period last year.

Pierson, Brand & Co., No. 11 Wall street, New York, have advertised later advising shareholders in the Consolidated Company to communicate with them before taking steps to deposit their stock with the Protective Committee.



NEW RUBBER SHOE FACTORY OF THE APSLEY RUBBER CO.

APSLEY RUBBER CO. MAKING SHOES.

THE intention of President Apsley to add footwear to the list of products of his company was first announced in *THE INDIA RUBBER WORLD* so recently as January 1 last. Since that time extensive new buildings have been erected for this purpose, and machinery installed and put in running order. A recent letter to *THE INDIA RUBBER WORLD* announced: "We expect the mill room will start up on Monday, April 23, and that we shall make a few shoes on the 25th." They will make a full line, the first grade branded "Apsley" and the second "Hudson." The erection and equipment of the building have been supervised by George Schlosser, who is now superintendent of the factory after filling a like position with the Meyer Rubber Co., and later with the National India Rubber Co. The principal building for the shoe factory is of brick, 250x60 feet, and four stories high. W. B. Loughton, who will be manager of the boot and shoe selling department, was formerly associated with The L. Candee & Co. (New Haven), and more recently with The Byfield Rubber Co. (Bristol, R. I.), and is well known to buyers throughout the country of rubber boots and shoes. He expects to open soon an office in the shoe district in Boston.

MONARCH RUBBER CO. (ST. LOUIS.)

THE pioneer rubber shoe factory in the West—the preliminary announcement of which appeared in *THE INDIA RUBBER WORLD* so recently as October 1 last—is now in satisfactory

operation. The company are making now about 2000 pairs of shoes per day, and expect gradually to work to their limit of 8000 pairs per day for this season. *THE INDIA RUBBER WORLD* is advised that the company are receiving a very satisfactory volume of business from their salesmen and from their customers. They feel quite satisfied that their choice of lasts will result in shapes that will fit the prevailing styles in leather shoes. The Monarch Rubber Co. issued their first price list

at the beginning of the month, and their catalogues, on which they have expended much pains and care, are now due. Their rubber shoe factory is at Bittner and Kenwick streets, St. Louis.

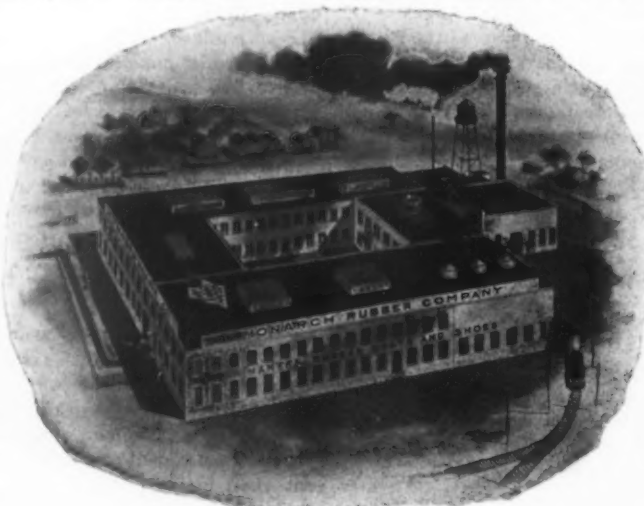
NATIONAL INDIA RUBBER CO.

WORK was resumed on April 2 in the shoe department, and also in the manufacture of clothing, mechanical goods, and druggists' sundries. The company had in hand a very large number of orders for tennis shoes, including, it is said, an item of 2000 cases for export. The tennis department, in fact, has more work than for several

years. Important repairs and improvements in the factory were made during the shutdown.

A NEW SELLING AGENT FOR THE BYFIELD.

THE Byfield Rubber Co. (Bristol, R. I.) are fortunate in securing as selling agent a gentleman who has not only had experience as a successful salesman of rubber footwear, but one who is also well grounded in the manufacture of rubber shoes. The new agent is Mr. William F. Stevens, who leaves the posi-



NEW FACTORY OF THE MONARCH RUBBER CO.

tion of store superintendent and manager for Charles A. Coe & Co. (Boston), New England agents of the American Rubber Co., to accept a position of greater responsibility. In order to learn how to effectively sell rubber shoes, Mr. Stevens, some years ago, secured a position with the American Rubber Co., and, beginning in the grinding room, learned to wash, mix, and calender rubber, and later, in the boot and shoe room, learned exactly how the goods were made. In 1892 he took a position with William Morse & Co. (New York), where he learned the jobbing of rubber shoes. He remained in that position for about three years, then represented Converse & Pike in New York, and later went to Boston, having an excellent position with Charles A. Coe & Co. It is interesting to note that Mr. Stevens is a nephew of E. H. Paine, selling agent of the United States Rubber Co., and that he resembles his relative in his ability to "hustle," and in his abundant vitality and good humor. The excellent training that he has had, and his native ability, will without doubt enable him to market the Byfield goods with great success.

A SHOE FIRM'S RUBBER DEPARTMENT.

CLARK-HUTCHINSON CO. (Nos. 111-117 Federal street, Boston), issue for the current season a wonderfully complete catalogue of leather footwear, well printed and arranged and freely illustrated. In regard to rubbers they say:

The Rubber Department has been materially enlarged by the addition of an entire floor, giving us the necessary space to carry a sufficient stock to meet all early season case demands, and ample room to "size out" for middle and late season "size up" orders. We therefore ought to do a large rubber business, and we expect to do a larger rubber business.

They carry especially "Bostons" and "Bay States."

PEERLESS RUBBER MANUFACTURING CO.

AN unusually quick piece of contract work in building was accomplished recently for this company at their plant at New Durham, N. J. The contract was given one Thursday night at 6 o'clock for an additional story to their hose building. By the following Monday morning the work was all completed—shafting in place, electric lights installed, and the building painted inside and out. The building is 256 feet long and 40 feet wide and the floor space is entirely free from posts.

CANTON (OHIO) RUBBER CO.

THIS company, recently formed, to manufacture seamless rubber goods, druggists' sundries, and specialties, inform THE INDIA RUBBER WORLD that they are building an addition to their factory 53×45 feet. This, when completed, will make their plant 112×45 feet, of brick and stone, all three stories in height. They are also putting in some of the latest and best machinery, for the purpose of manufacturing a complete line of druggists' sundries. From another source it is learned that the company of late have been extending their trade successfully in the Eastern states and also in Texas and on the Pacific coast.

NEW RUBBER HOUSE IN SAN FRANCISCO.

E. C. DAILEY, who for several years was Pacific coast manager for the B. F. Goodrich Co. (Akron, Ohio), has been recently in New York, completing arrangements for opening a new house in San Francisco, for carrying stocks of leading lines of rubber goods, in mechanicals, tires and cycle sundries, mackintoshes and rubber clothing, and druggists' and stationers' sundries. During the past seven years Mr. Dailey has gained a comprehensive acquaintance with the needs and conditions of the rubber goods trade in the Pacific coast states, which, in many particulars, differ from the requirements else-

where in this country, and has concluded to put the knowledge thus acquired to account by going into business on his own account, as a manufacturers' agent. In view of the long distance of the Western market from the manufacturing center, Mr. Dailey is convinced of the desirability of carrying stocks to a larger extent than dealers in the East have been accustomed to. The style of the new firm, their location in San Francisco, and their various Eastern connections will be announced probably in the next INDIA RUBBER WORLD.

BOSTON WOVEN HOSE AND RUBBER CO.

A CERTIFICATE has been filed with the commissioner of corporations for Massachusetts, showing the condition of this company on March 1, 1900, to have been as follows: *Assets*—Real estate, \$263,500; machinery, \$300,000; debts receivable, \$269,000; stock in process of manufacture, \$504,422; patents, \$100,000. *Liabilities*—Capital stock, \$1,200,000; total debts, \$125,000.

A HISTORIC RUBBER STORE DESERTED.

THE retail rubber goods store which so long has occupied the northwest corner of Nassau street and Maiden lane has been removed to the opposite side of Maiden lane, at No. 20. The premises in question was occupied as a rubber store by Daniel Hodgman, the founder of the business now conducted by the Hodgman Rubber Co., in the early forties. It continued to be occupied by the Hodgman company until they outgrew the place, and found larger quarters in Broadway, but they retained the old store for years, to supply a certain retail trade, which had become established there. The business was turned over in time to Barker & Camp, which changed to Barker & Co., when the Messrs. Hodgman again took it over. July 1, 1891, they sold it to Camp & Crane, who were succeeded May 1, 1895, by Camp & Berrian. Since January 1, 1898, the business has been conducted by George W. Berrian. He has a good retail trade in a general line of rubber goods, besides which he is agent in New York for the Yatman Rubber Co. (Newark, N. J.) The new store is larger than the old, but is intended to be occupied for only a year, when a still larger one will be occupied, at the northeast corner of Nassau and Maiden lane.

NEW INCORPORATIONS.

THE Royal Rubber Co., under New Jersey laws, April 4, to deal in rubber and rubber products, including varnishes; capital authorized, \$2,500,000. Incorporators: William Erdman, Horace A. Ockershausen, and Louis Frankel, all of Jersey City.

=Union Rubber Co. (Chicago), under Illinois laws, April 2; capital, \$5000. Incorporators: Charles B. Martin, Dennis J. O'Brien, and Thomas J. Cannon.

=Tapachula Rubber Co., under California laws, March 27, to cultivate rubber trees in Mexico and elsewhere; capital, \$200,000, all subscribed. Directors: W. H. Wright, D. B. Moody, and C. D. Wright, San José; D. Wilson and W. H. Sinforth, San Francisco.

=The Squires Manufacturing Co. (Boston, Mass.), under New Hampshire laws, March 28, to manufacture leather and rubber goods.

=The Consolidated Rubber Co., March 26, under Maine laws; capital, \$600,000. Edwin A. Lovejoy and William P. Collins, of Everett, Mass., are president and treasurer, respectively.

=The Springfield Elastic Tread Co., under Ohio laws, to manufacture rubber heels; capital, \$10,000. Incorporators: Elmer E. Wolf, John M. Good, E. O. Walker, W. Smith and Thomas Walker, all of Springfield, Ohio.

=The Duckwall-Harman Rubber Co. (Indianapolis) March 13, under Indiana laws; capital, \$8500. Directors: Herbert R. Duckwall, Edward Harman, and Chauncey R. Watson.

TRADE NEWS NOTES.

FREDERICK G. DAVIS, of Chicago, has been made a director of the New Jersey Car Spring and Rubber Co. (Jersey City, N. J.), and also sales agent for the West, with headquarters at Nos. 175-177 Lake street.

=Read & Co., No. 147 Fifth avenue, Chicago, announce that they have secured the United States interest in the Berry rubber heel, the patentee having gone abroad to introduce the article in England and elsewhere.

=Robert M. Kellogg, of Metuchen, N. J., has been appointed receiver for the P. Carter Bell Co., manufacturers of rubber substitutes, on the application of Charles S. Edgar, a creditor. It is understood that the receivership proceedings are friendly, and brought for the purpose of effecting a reorganization of the company. Their business has not been suspended.

=The Calumet Tire Rubber Co. (Chicago) have named John B. Hicks as their general eastern agent. He may be addressed for the present through P. O. box No. 2298, New York, though the company expect soon to open an office in New York. The company are making their own tires, their factory manager being Raymond B. Price, who is widely known in the rubber trade. The company are reported to be strongly organized, and they think that they have a good tire.

=The New Brunswick (N. J.) Tire Co. will conduct the sale of their tires in Chicago hereafter under the firm name, with headquarters at No. 25 Lake street. In addition to the tires manufactured by them hitherto, they are marketing this season a special thick tread tire.

=The Milford (Mass.) Rubber Co. were erroneously reported last month to have put in fifty sewing machines and begun the manufacture of mackintoshes. They inform THE INDIA RUBBER WORLD that they will continue to confine their work to the waterproofing of cloth for the trade. The error in publication grew out of confounding the Milford company with another concern.

=H. A. Palmer has resigned as assistant secretary of the India Rubber Co., at Akron, Ohio, to become assistant general manager of the Pennsylvania Rubber Co., at Erie, Pa., and will remove his family to the latter place.

=The Warren Rubber Co. (Warren, Ohio), a rubber jobbing company formed three years ago, at their annual meeting on April 9, declared a good dividend, besides carrying a balance to surplus. The directors elected are: H. H. Pierce, E. E. Nash, George E. Devoe, James Mahan, Richard Sibson, E. L. King, and C. B. Selby. H. H. Pierce was reelected president and general manager, Richard Sibson vice president, and E. E. Nash, secretary and treasurer.

=F. W. Whitcher & Co., No. 4 High street, Boston, are the manufacturers of the "Nojar" rubber heel, described in the last INDIA RUBBER WORLD—a fact inadvertently omitted from the article describing the heel.

=Edwin G. Baetjer has been appointed receiver for The Dorman Co., rubber stamp manufacturers of Baltimore, Md., of which concern William A. Moore is president.

=Harrison C. Frost, No. 170 Summer street, Boston, is sending out some original and interesting printed matter to advertise his "Pneu-solid" bicycle and automobile tires.

=L. C. Singer, of San José, Costa Rica, was recently in New Orleans, where he stated that he had secured capital, in the northern states, for the establishment of a rubber plantation of 1000 acres.

=Alfred Hale & Co., of Boston, advise THE INDIA RUBBER WORLD of their removal from No. 26 to No. 28 School street, where they will continue the manufacture of their well known rubber specialties. The retail branch of their business has been discontinued.

=Pratt Brothers & Co. (No. 36 Dearborn street, Chicago) have been appointed general sales agents for the Berger & Lawson Tire Co., manufacturers of the "B. & L." detachable tire, which was illustrated and described in THE INDIA RUBBER WORLD of February 1 last.

=S. M. Evans, general Eastern representative of the Picher Lead Co. (Chicago), has located in the Woodbridge building, No. 100 William street, New York, where he can be reached by mail, telephone, or telegraph. The company believe this location to be the most central and most convenient for their business in New York, and believe that their friends in the rubber trade will appreciate the fact.

=Philip McGrory (Trenton, N. J.), wholesale dealer in scrap rubber and dealer in secondhand rubber machinery, has also taken on the sale of standard grades of reclaimed rubber.

=The Mechanical Fabric Co. (Providence, R. I.) have consented to a decree against them in the suit brought by Morgan & Wright against them on the patent of the latter company, No. 502,047. They have also taken a license from Morgan & Wright, to avoid possible future claims from the latter growing out of the sale of "Flexifort" double tube tires.

=The Goodyear Rubber Co. (St. Paul, Minn.) advise THE INDIA RUBBER WORLD that their business in mackintoshes for the first three months of 1900 has been largely in excess of that for the same period of last year.

=H. N. Wayne, formerly of the Watertown (Mass.) Rubber Works, has gone to Alaska.

=The Goodyear Rubber Co.'s Saint Paul branch, together with the goods sold from it, is described at some length in the *Northwest Magazine* for March, the article being illustrated with several views of the store, outside and inside.

=The price list of the Goodyear Rubber Co.'s boots and shoes, in effect from April 2 to October 31, shows that the advance on "Gold Seal" goods is less than 5 per cent. On most of the items there is no advance, including men's arctics, men's hip boots, and men's three buckle snow excluders. The "Gold Seal" ribbed lumberman's over is advanced only 5 cents per pair.

=George Watkinson & Co. (Philadelphia) have issued a new price list of their "Thistle brand" rubber boots and shoes dated April 2, 1900.

=The Alden Rubber Co. (Barberton, Ohio) have bought the plant of the Creedmore Cartridge Co., adjoining their premises, and, it is understood, will convert it into addition to their rubber factory.

=The plant of the American Commercial Rubber Co. (Elizabeth, N. J.) was levied upon recently to satisfy judgments in favor of Meline W. Halsey and Charles F. Hart. The affairs of the company have been placed in the hands of a receiver—F. E. Bradley—who is attempting a reorganization. A new company, under the style of the Federal Rubber Co., has been talked of, to manufacture electric tape and proof cloth for the trade.

=The stockholders of the Woonsocket Rubber Co., at their annual meeting at Woonsocket, R. I., on April 24, reelected the board of directors—Samuel P. Colt, Frederick C. Sayles, F. C. Sayles, Jr., Henry R. Barker, and Walter A. Read. The directors met at Providence on the same day and reelected the old officers: S. P. Colt, president and general manager; Frederick Cook, treasurer; and C. H. Guild, secretary.

RECENT DEATHS IN THE RUBBER TRADE.

MAHLON C. MARTIN.

MAHLON C. MARTIN, a member of the executive committee of the United States Rubber Co., died, at the age of sixty-five years, at his home in New Brunswick, N. J., on April 4, of paralysis, complicated with an apoplectic seizure. He had but a few days before returned from southern California, where he had been for the benefit of his health.

He was born near New Brunswick, of parents who placed so high an estimate upon education that, on settling once in New Orleans, and finding the school facilities there meager, they returned north, at great pecuniary loss, that their children's education might not suffer. Mahlon Martin received a better education than the average boy, so that, at the age of fifteen, he became the valued assistant of his teacher, in the higher mathematics, Latin, and Greek, being at that time fitted to enter college as a sophomore. But intense love for parents, brother, and sisters, made him willingly sacrifice what he then thought the great advantage of a college training, that he might assist them.

His first effort at money-getting was by teaching, and of his earliest earnings he devoted a tenth of his income to charity, and this practice he continued so long as he lived. His next employment was bookkeeping, in which he had few, if any superiors. For a while he was in the coal office of George H. Stout; later he became bookkeeper for a firm of which his brother was a member. Feeling that he might do still better, he went to the late John R. Ford, then an important rubber manufacturer, who received the timid and retiring, though brave, youth with great kindness, giving him at once a position with Breeden & Southwick, then the selling agents in New York for the Meyer Rubber Co.'s goods. So well did he succeed here that, before the end of the first year, his salary was fixed at three times the amount originally agreed upon.

Christopher Meyer, John R. Ford, and others in time formed a company for the purchase and development of oil fields in Pennsylvania, and Mr. Martin was made manager, over the protest of some of the number that he was too young and inexperienced for the position. One of his friends said "No fear of that, he is not an experienced man, but he is a giant in honesty and in industry, and the experience will come."

While in Pennsylvania Mr. Martin conceived the idea of conveying oil through pipes, and built the first oil pipe line. Later, while helping to extinguish a terrible oil fire, his overexertion led to the injury of his health such that he had to retire from business. He then traveled, visiting nearly every

part of North and South America and Europe, and much of Asia and Africa.

In 1870 was established the New Jersey Rubber Shoe Co., at New Brunswick, with L. L. Hyatt president, succeeded by John R. Ford. Mr. Martin became president of the company in 1890, which position he held until the company was absorbed by the United States Rubber Co., in 1892. Mr. Martin long had been convinced of the feasibility of combining the leading rubber manufacturers into one gigantic company, but could find no one to share his views until he came into contact with Charles R. Flint, who took a deep interest in the subject, resulting in the organization of the United States Rubber Co. Mr. Martin's factory was the first acquired by the United States company, and he served as a director in the latter from the beginning until the date of his death. For a few years he filled the office of assistant treasurer, which he resigned on account of failing health, though continuing to fill a place on the executive committee.

Mr. Martin was a member of the New York, Lawyers', and Metropolitan clubs and the Down Town Association, in New York, and of clubs at New Brunswick, N. J., and Jamestown, N. Y.; also of the American Geographical Society and the Metropolitan Museum of Art. He was a man of a scientific and investigating turn of mind, a student of men, a voluminous reader, and a man of deep religious convictions, and of many unostentatious charities.

The will of the late Mr. Martin was admitted to probate in New Brunswick on April 17. By the terms of the will the property of the testator in New Brunswick goes to his three sisters, Serena A. Martin, Eliza M. Abbe, and Maria R. Martin. His summer home in Chautauqua county, N. Y., is also left to his three sisters. All the residue of his property, consisting of stocks in railroads, banks, insurance, mining and manufacturing companies, railroad bonds and mortgages, is bequeathed to his three sisters and the brother, Miles Martin, two-sevenths to each sister and one-seventh to the brother. Eliza M. Abbe, Maria R. Martin and Miles Martin are named as executors. The will is dated April 3, 1891. The estate is estimated at several millions of dollars.

ALBERT CLARKE EDDY.

COLONEL ALBERT C. EDDY, one of the pioneers in the India-rubber industry, died April 5, in his seventy-seventh year at the home of one of his sons in Chicago, where he had lived for the past four years. He was born at Providence, R. I., February 26, 1824, where, at the early age of eight years, he became employed



THE LATE MAHLON C. MARTIN.

in the shoe store of George O. Bourn, in opening cases of the primitive rubber shoes then imported in large numbers from Pará. He was still in this store when, in 1839, Mr. Bourn—the father of ex-Governor Augustus O. Bourn—formed a copartnership with David L. Winslow for the manufacture of rubber shoes. After two years Mr. Bourn continued the business alone, young Eddy being engaged in mixing rubber and cutting out the shoes. In 1843 Mr. Eddy went to Philadelphia, to do similar work for John Thornley, who also added druggists' sundries to his production. In 1845 Mr. Eddy went with Levick, Jenkins & Co., shoe dealers in Philadelphia, who sold large quantities of rubber shoes. Later, in 1853, he became Philadelphia agent for Bourn, Brown & Chaffee, who were manufacturing rubber shoes under a license from Goodyear, and who became incorporated later as the Providence Rubber Shoe Co. In 1855 the Philadelphia agency was closed and Mr. Eddy returned to the factory at Providence.

In 1857 Mr. Eddy opened a rubber store in Providence, with a partner, under the style of Garfield & Eddy, at No. 15 Westminster street. Besides selling everything in those days made of rubber, the new firm rented a room from the Providence Rubber Shoe Co. in which to make druggists' sundries, beginning with syringes. They made many improvements in compounds, and by 1859 had become well established. They filled orders for Charles Davidson, Dr. M. Mattson, Davol Rubber Co., Goodyear Rubber Co., and many smaller dealers. In 1865 Colonel J. M. Studley and his brother, Thomas E. Studley, bought out the Garfield interest, and the firm became A. C. Eddy & Studleys. In 1883 Mr. Eddy sold his interest to the Studleys, who continued the business under the name of Studley Brothers until the death of Thomas E., since which the style has been Studley & Co. After retiring from business Colonel Eddy lived for several years with his family at Bristol, until after the death of his wife. Then his sons, George O. and Henry C., having gone west and settled, one in Minneapolis and the other in Chicago, he went to the latter city, where he remained until his death. His remains were removed to Providence for interment the funeral service being held at Grace church, on Sunday, April 8, under the direction of Calvary Commandery, Knights Templar.

At the time of the Dorr rebellion in Rhode Island, though very young, Mr. Eddy drilled recruits for the militia. While living in Philadelphia, he was appointed an aide to the governor of Pennsylvania, with the rank of colonel. During the civil war Colonel Eddy helped to organize the first regiment sent out from Rhode Island, and after going out with it, assisted, upon his return, in organizing several others.

RUFUS WRIGHT.

RUFUS WRIGHT, whose death in Chicago, on April 15, in his sixty-eighth year, is reported, first became connected with the India-rubber as a member of the partnership of Morgan & Wright, at the beginning of the year 1884. Mr. Wright had not previously been engaged in business, but had been an artist in New York and other eastern cities, gaining a considerable reputation through painting portraits of President Lincoln and all the members of his cabinet. Mr. Morgan, who was his son-in-law, had been a superintendent for the Chicago Rubber Works, and still earlier with the Akron Rubber Works. The original business capital of the firm was \$5000. They became incorporated under Illinois laws December 1, 1893, with a capital stock of \$100,000, which was increased in January, 1898, to \$500,000. The stockholders and directors were Mr. and Mrs. Morgan and Mr. Wright, the latter filling the positions of secretary and treasurer. The company had a

prosperous career from the beginning, building up a very large trade in the Morgan & Wright tires. Early in 1899 they became a part of the Rubber Goods Manufacturing Co. Mr. Wright was born near Cleveland, Ohio, and his remains were interred at Akron. Although no house in the tire and rubber trades is better known than Morgan & Wright, Mr. Wright was known personally to comparatively few and of late years, at least, has not taken a really active part in the firm's affairs.

TRIBUTE TO ABNER J. TOWER.

THE following resolutions, drafted by a committee of the New England Rubber Club, consisting of Horace H. Tyer, William H. Gleason, and George P. Whitmore, were adopted at a recent meeting of the club:

WHEREAS, Death has removed from our midst, our friend and associate, Mr. Abner J. Tower, treasurer of The Metropolitan Rubber Co., and of the New York Insulated Wire Co., we, therefore, the New England Rubber Club, in token of our sincere sorrow, have framed the following resolutions:

Resolved, That in the death of Mr. Tower, the whole business community has suffered a severe loss, a loss that the rubber trade shares in considerable part. A leader among business men, alert, progressive and capable, an enterprising and successful manufacturer, a financier of rare ability, a pioneer in large undertakings; his life was full of strenuous effort and equally full of success. Although pressed by many cares, he gave freely of his time, his counsel, and his means, to scores who sought his aid. Ever genial and possessed of rare social qualities, he made hosts of friends and in voicing the thought of the many, mourn the ending of a life that had it been prolonged, had in store a still wider appreciation of the truly successful man.

Resolved, That a copy of these resolutions be sent to his family.

CHARLES J. McDERMOTT.

CHARLES J. McDERMOTT, superintendent of the factory of the Colonial Rubber Goods Co., at Franklin, Mass., died at his home in that place on April 3, of heart failure, superinduced by an attack of *la grippe*. Mr. McDermott was an expert calendar man, and had superintended this class of work in several factories in the United States and Canada, besides which he had had much experience in reclaiming rubber. When the Saylor Rubber Co. was established at Franklin, a year or two ago, Mr. McDermott became employed there, and when that company was succeeded by the Colonial, he was retained as superintendent of the factory. He was about forty-five years of age and leaves a widow, a son, and a daughter.

JOHN RYE.

THE death is reported from London, of John Rye, long engaged in the shoe trade, which occurred in that city on March 31. Mr. Rye was born in Irthlingborough, Northamptonshire, in 1854. After having been connected, in responsible positions, with important firms in the shoe trade, he commenced business for himself, under the style of John Rye & Co., occupying latterly the premises 45, Aldersgate street, E. C. He paid special attention to rubber footwear trade, and for many years maintained a selling agreement with the Woonsocket Rubber Co., which was converted later into a contract with the London branch of the United States Rubber Co. Mr. Rye had been in poor health for some time, his business being under the management of Miss F. Bishop, who will continue it for the present.

WILLIAM WALKER.

WILLIAM WALKER, for twenty-eight years foreman of the secret department of the North British Rubber Co., Limited (Edinburgh), and a man of considerable scientific attainments, died of an apoplectic stroke which occurred while he was at work, on March 23.

AMERICAN RUBBER FOOTWEAR BRANDS.

APSLEY RUBBER CO.	
Apsley Rubber Co.	Hudson Rubber Co. ✓
JOSEPH BANIGAN RUBBER CO.	
Joseph Banigan Rubber Co.	Woonasquatucket Rubber Co.
BEACON FALLS RUBBER SHOE CO.	
Beacon Falls Rubber Shoe Co.	Granite Rubber Co. ✓
BOSTON RUBBER SHOE CO.	
Boston Rubber Shoe Co.	Bay State Rubber Co.
BOURN RUBBER CO.	
Providence Rubber Shoe Co.	Union Shoe Co. —
BYFIELD RUBBER CO.	
Byfield Rubber Co.	—
<i>Third Quality: Narragansett Rubber Co.</i>	
CONCORD RUBBER CO.	
Concord Rubber Co.	Bunker Hill Rubber Co. —
GOODYEAR'S INDIA RUBBER GLOVE MANUFACTURING CO.	
Goodyear's India Rubber Glove Manufacturing Co.	
GOODYEAR RUBBER CO.	
Goodyear Rubber Co.	New York Rubber Boot and Shoe Co.
<i>Special Brands: Gold Seal, Newark Rubber Co.</i>	
HOOD RUBBER CO.	
Hood Rubber Co.	Old Colony Rubber Co.
LAMBERTVILLE RUBBER CO.	
Stout's Patent Snag Proof.	
MISHAWAKA WOOLEN MANUFACTURING CO.	
Ball Brand.	Midland Rubber Co.
MODEL RUBBER CO.	
Model Rubber Co.	Fairmount Rubber Co. ✓
MONARCH RUBBER CO.	
Sunset Rubber Co.	Prairie Rubber Co. —
UNITED STATES RUBBER CO.	
American Rubber Co.	Para Rubber Co.
Candee Rubber Co.	Federal Rubber Co.
Lycoming Rubber Co.	Keystone Rubber Co.
Meyer Rubber Co.	New Jersey Rubber Shoe Co.
Wales-Goodyear Shoe Co.	Connecticut Rubber Co.
Woonsocket Rubber Co.	Rhode Island Rubber Co.
<i>Third Quality: Colonial Rubber Co.</i>	
GEORGE WATKINSON & CO.	
George Watkinson & Co.	

HOW TO STERILIZE SOFT RUBBER GOODS.

THE sterilization of soft rubber goods for surgical use can be accomplished by three methods, viz.: Wet heat, submersion in chemical germicides, and by formalin fumes.

First. Wash with soap and water, wrap in towel, napkin or gauze, and place in steam sterilizer, or boil for from two to five minutes in plain water or weak carbolic solution (1 per cent.) If it is intended to sterilize for future use, place in a white sack, boil and wrap in sterile towel and place in instrument or obstetric bag.

Second. Submerge after washing in any of the usual antiseptic solutions as bichloride, carbolic acid, lysol, formalin etc., at the usual strength. These antiseptics have no detrimental effect upon the rubber, though they may bleach it some.

Third. Place the rubber cots in a "Shering" oven and burn one or two five-grain formalin pastilles, and allow it to remain in oven for ten minutes. In removing from the boiler, antiseptic solutions, or from the oven, rubber should be handled with sterile gauze or forceps.

VELVRIL, which is attracting considerable attention abroad does not seem, according to all reports, to be the ideal substitute for rubber in every particular. There is no doubt, however, that cellulose products in some shape will in the near future enter largely into rubber manufacture, and it is possible that modifications of Mr. Reid's invention will be valuable.

THE felt strips that are used on automobiles to protect the tire from rim wear seem to fill a long felt want.

EXPORTS of domestic manufactures of India-rubber from the United States during the eight months of the fiscal year—July 1 to February 28—amounted in value to \$1,515,296, against \$1,087,718 for the corresponding period of the preceding year. The exports of rubber shoes amounted to 530,071 pairs, against 362,008 pairs in the preceding period.

H. B. WENTZ, salesman for the Chicago branch of the Beacon Falls Rubber Shoe Co., at a special election was elected Councilman, at Edison Park, a suburb of Chicago.

REVIEW OF THE CRUDE RUBBER MARKET.

RUBBER prices have advanced from the rather marked decline which was experienced during the first part of the month, until they are now practically on a level with the quotations published in our issue of April 1. The condition of the market just now is one of firmness. The general resumption of work by the rubber shoe factories has not been without its effect upon the stiffening of prices. Another element, which remains yet to be estimated, is the entrance into the buying market of the newly formed rubber shoe manufacturing concerns, the extent of whose operations will be watched with interest as affecting the consumption in this country. Stocks of rubber in the United States are not large, though the holdings in Europe bring the visible supplies up to a figure which, if there were no other considerations involved, would militate against an advance in rubber prices. There is to be considered, however, the fact that the rubber producing season is practically over, while the consumption of rubber is likely to be on a good scale, not only in America, but in every country in Europe in which the industry has been developed. The continued high prices of

rubber scrap, and of the products from this material, and the great interest shown by rubber manufacturers in investigating every new substitute offered, all tend to show that a good consumption is in prospect, and indicate that manufacturers must be prepared for a continuation of high prices for crude rubber. At the same time, the standard of rubber goods prices, here and abroad, has been improved so that the payment of current quotations for raw materials imposes less hardship upon manufacturers than was the case so recently as a year ago.

The latest quotations in the New York market are:

PARÁ.		AFRICAN.	
Islands, fine, new....	97 @98	Tongues.....	62 @63
Islands, fine, old....	98 @99	Sierra Leone.....	78 @79
Upriver, fine, new....	100 @101	Benguella.	68 @69
Upriver, fine, old....	101 @102	Congo ball.....	62 @63
Islands, coarse, new....	56 @57	Cameroon ball.....	62 @63
Islands, coarse, old... none here		Flake and lumps.....	47 @48
Upriver, coarse, new....	74 @75	Accra flake.....	20 @21
Upriver, coarse, old....	76 @77	Accra buttons.....	65 @66
Caucho(Peruvian)sheet	56 @57	Accra strips.....	68 @69
Caucho (Peruvian)strip		Lagos buttons.....	64 @65
none imported now.		Lagos strips.....	65 @66
Caucho (Peruvian) ball	68 @69	Liberian flake....	@

CENTRALS.	
Esmeralda, sausage...	68 @69
Guayaquil, strip.....	57 @58
Nicaragua, scrap....	65 @66
Mangabeira, sheet....	57 @58
EAST INDIAN.	
Assam.....	78 @81
Borneo.....	39 @54

Late Pará cables quote:

	Per Kilo		Per Kilo
Islands, fine	88 50	Upriver, fine.....	108 200
Islands, coarse.....	38 50	Upriver, coarse.....	68 600

Exchange 8 1/4 d.

Exchange 8 1/4 d.

NEW YORK RUBBER PRICES FOR MARCH. (NEW RUBBER.)

	1900.	1899.	1898.
Upriver fine.....	99 @1.05	1.02 @1.07	94 @95
Upriver coarse.....	75 @80	88 @90	73 1/2 @75
Islands fine.....	98 @1.04	1.01 @1.05	92 1/2 @93
Islands coarse.....	59 @64	71 @75	62 1/2 @64
Cametá coarse.....	62 1/2 @65	72 @77	69 @71

STATISTICS OF PARA RUBBER (METRIC TONS).

NEW YORK.		PARÁ.		ENGLAND.	
		Fine and Medium.	Coarse.	Totals.	Totals.
Stocks, February 28.....	567	87	654	408	342
Arrivals, March.....	1162	428	1590	2841	1161
Aggregating.....	1720	515	2244	3249	1503
Deliveries, March.....	1166	438	1604	2757	1031
Stocks, March 31.....	563	77	640	492	472
Stocks, February 28... 1905	2225	530	449	735	580
Arrivals, March... 3115	2450	1730	2156	915	1290
Aggregating.....	5110	4675	2605	1650	1870
Deliveries, March... 4080	3445	1875	1250	750	875
Stocks, March 31. 1030	1230	385	1355	900	995
World's supply, March 31 (excluding Cauchó). 4853			3543		2681
Pará receipts, July 1 to March 31... 21,880			21,305		19,160
Afloat from Pará to United States, March 31... 429			283		
Afloat from Pará to Europe, March 31... 1374			638		
Afloat from United States to Europe, Mch. 31. 25					

In regard to the financial situation, Albert B. Beers (broker in India-rubber and commercial paper, No. 58 William street, New York), advises us:

"During April the money market has been much easier than in March, rates for the best rubber paper running from 5 1/2 down to 4 1/2 per cent., and for names not so well known the average has been about 5 1/2 to 6 per cent, with a fairly good demand towards the latter part of the month."

LIVERPOOL.

WILLIAM WRIGHT & Co. reported, April 2: "With plentiful supplies of fine Pará and a continued absence of any strong demand from America, prices have been gradually declining, and the market closes 3 1/4 d. to 3 1/2 d. below last month's final rates. The spot market has been quite neglected, but a good business done for delivery at current rates. Receipts in Pará show an increase of 550 tons as compared with March, 1899; this has further helped to lower prices. In Pará the demand has been good, and the great bulk of the receipts have been sold at comparatively higher prices than those ruling here. The position is a difficult one to judge; on the one hand you have persistent selling here, and on the other strong buying in Pará. Our own opinion is that the bottom is not far off, as if there is any increase in the Peruvian and not in Pará kinds. There was a brisk demand for African descriptions at the beginning of the month. Later, in sympathy with Pará grades, prices declined somewhat, and a considerable business has been done in the various descriptions of 'lump' rubbers at slightly easier prices."

J. J. Fischer & Co., Limited (Liverpool), reported stocks in that market as follows:

	January 31.	February 28.	March 31.
Pará: Fine.....	193 tons	228 tons	894 tons
Medium.....	65 "	47 "	114 "
Negroheads.....	199 "	194 "	353 "
African.....	500 "	595 "	663 "
Peruvian.....	16 "	46 "	210 "
Mangabeira.....	243 packages	256 packages	44 packages
Pernambuco.....	10 "	70 "	25 "
Ceará.....	783 "	1209 "	1619 "
Maniçoba.....	1314 "	1485 "	697 "
Assare.....	10 "	29 "	106 "

LONDON.

JACKSON & TILL, under date of April 2 report:

	1900.	1899.	1898.
Pará..... (English tons)	—	1	1
Borneo.....	148	75	63
Assam and Rangoon.....	16	21	6
Other sorts.....	412	383	276
Total.....	576	480	346
Pará.....	1344	894	968
Other sorts.....	1184	568	510
Total, United Kingdom.....	3104	1942	1824

PRICES PAID DURING MARCH.

	1900.	1899.	1898.
Pará fine.....	4/5 @4/2 1/2	4/3 @4/ 1/2	3/10 3/4 @3/11
Negroheads, Islands...	No sales.	2/11 3/4	2/7 1/4 @2/7
Negroheads, scrappy...	3/3	3/6 3/4 @3/7 3/4	3/1 @3/0 3/4
Bolivian.....	No sales.	4/5 @4/4 1/2	4/- @3/11 3/4

ANTWERP.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The sale by inscription on March 30 resulted:

	Offered.	Sold.
Congo sorts.....	tons 442	243
Other sorts.....	5	5
Total.....	447	248

The tone of the market was weak, as shown by the large proportion of unsold lots. Many large buyers abstained from bidding. Especially were the Mongalla and other white sorts generally sought in the United States neglected. These were mostly withdrawn, and are obtainable at 50 centimes below valuations. Prices were lower by 4 1/2 to 5 per cent. than at the last sale (March 3). Fifty-seven tons of Loporis were sold in ten lots, at from 9.50 francs down to 9.07 1/2, the average being 9.27 1/2 francs per kilogram. At the preceding sale the average was 9.95 francs. The next sale, on April 20, will embrace about 153 tons. Actual stocks in Antwerp are 393 tons. Adding 363 tons now landing from the *Leopoldville*, gives a total of 756 tons.

Antwerp, March 31, 1900.

C. SCHMID & CO.

ANTWERP RUBBER STATISTICS FOR MARCH.

DETAILS.	1900.	1899.	1898.	1897.	1896.
Stocks, Feb. 28., kilos	618,800	250,311	230,752	185,743	48,308
Arrivals in March....	416,278	250,081	166,910	108,515	63,352
Aggregating.....	1,035,078	500,392	397,662	294,258	111,660
Sales in March.....	300,018	246,623	219,098	175,247	57,664
Stocks, March 31....	735,060	253,569	178,564	119,011	53,996
Arrivals since Jan. 1..	1,776,314	761,945	487,844	318,783	155,205
Sales since January 1.	1,333,245	771,716	403,743	339,401	190,063

HAMBURG.

THE Hamburg market [says the *Gummi-Zeitung*, of March 30] has improved somewhat in Pará sorts during the past few

days, which may be accounted for by the fact that the market in Pará, owing to an advance of exchange, has risen materially, making business lively at advanced prices. The tendency in middle sorts was very weak at falling prices, according to the offer of the separate sorts. The transactions during last week were therefore immaterial. It seems as if the consumers had adopted a waiting policy, which is not to be wondered at, considering the enormous receipts which are offered at auction in the Antwerp market. In fact business has on that account much deteriorated.

IMPORTS FROM PARA AT NEW YORK.

[All Figures Denote Pounds.]

March 24.—By the steamer *Polycarp*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Reimers & Co.	226,700	47,000	90,700	1,300	365,700
New York Commercial Co.	142,500	24,500	56,500	6,000	229,500
Crude Rubber Co.	131,400	13,600	22,600		167,600
Boston Rubber Shoe Co.	37,600	12,200	8,200	95,300	153,300
Albert T. Morse & Co.	51,300	6,800	31,800	9,900	99,800
Lawrence Johnson & Co.	17,000	2,900	12,000		31,900
Lazard Freres.	1,900		8,400	11,600	21,900
Otto G. Mayer & Co.	5,000	3,200	7,100		15,300
W. H. Crossman & Bros.	3,400	2,300	4,800		10,500

Total..... 616,800 112,500 242,100 124,100=1,095,500

March 29.—By the steamer *Grangense*, from Manáos and Pará:

New York Commercial Co.	202,900	26,300	50,200	29,700	309,100
Reimers & Co.	62,500	15,000	63,100		140,600
Crude Rubber Co.	74,600	13,900	18,500	1,900	108,900

PARA RUBBER VIA EUROPE.

MARCH 22.—By the *Teutonic*=Liverpool:

Joseph Cantor (Coarse)..... 10,400

APRIL 9.—By the *Etruria*=Liverpool:

Reimers & Co. (Caucho)	4,300
George A. Alden & Co. (Coarse)	3,600
William Wright & Co. (Coarse)	500

APRIL 14.—By the *Campania*=Liverpool:

Reimers & Co. (Caucho)	28,000
George A. Alden & Co. (Coarse)	9,500
Crude Rubber Co. (Coarse)	13,000

APRIL 19.—By the *Teutonic*=Liverpool:

Reimers & Co. (Coarse)..... 5,500

OTHER IMPORTS AT NEW YORK.

CENTRALS.

MARCH 26.—By the *El Cid*=New Orleans:

Albert T. Morse & Co. 3,000

MARCH 28.—By the *Seneca*=Mexico:

H. Marquardt & Co.	5,000
Flint, Eddy & Co.	1,000
Tibbals & Blossom	1,500
H. W. Peabody & Co.	1,000
J. W. Wilson & Co.	500

MARCH 27.—By the *Alene*=Greytown, etc.:

A. P. Strout	8,000
Andreas & Co.	2,500
Gulterman, Rosenfeld & Co.	700
G. Amsinck & Co.	1,000
For Antwerp	1,500

MARCH 23.—By the *El Rio*=New Orleans:

Albert T. Morse & Co.	20,000
Harburger & Stack	2,000
W. R. Grace & Co.	1,000

MARCH 30.—By the *Seguranea*=Mexico:

Thebaud Brothers	5,500
E. Steiger & Co.	3,000
H. W. Peabody & Co.	2,500
H. Marquardt & Co.	500
For Europe	1,500

MARCH 29.—By the *Athos*=Colon:

Kunhardt & Co.	4,800
Dumarest & Co.	3,600
G. Amsinck & Co.	2,600
L. N. Chemedlin & Co.	2,400
A. Santos & Co.	1,900
A. P. Strout	1,300

D. N. Carrington & Co.	800
Roldan & Van Sickle	1,000
Lawrence Johnson & Co.	600
J. W. Wuppermann	500
Mosle Brothers	200
R. G. Barthold	200
Jimenez & Escobar	100

MARCH 30.—By the *Germanic*=Liverpool:

Reimers & Co. 16,000

MARCH 30.—By the *Hansa*=Belize:

Eggers & Heinlein	3,000
Harburger & Stack	1,000
K. Mandell & Co.	100

MARCH 31.—By the *Phanicia*=Hamburg:

Reimers & Co.	15,800
Livesey & Co.	2,500

APRIL 2.—By the *Louisiana*=New Orleans:

Albert T. Morse & Co.	5,000
W. R. Grace & Co.	6,800
Eggers & Heinlein	1,500

APRIL 3.—By the *Erna*=Cape Graefas:

Eggers & Heinlein	6,200
A. S. Lascellas & Co.	500
F. Halberstedt & Co.	200

APRIL 3.—By the *Alleghany*=Savanilla:

G. Amsinck & Co.	3,500
Kunhardt & Co.	4,000
Gulterman, Rosenfeld & Co.	2,000
For Europe	500

APRIL 4.—By the *Handel*=Bahia:

J. H. Rosback & Bros 23,000

APRIL 4.—By the *Alliance*=Colon:

Crude Rubber Co.	2,900
Fedento Nieto & Co.	900

APRIL 7.—By the *Pucatan*=Mexico:

E. Steiger & Co.	2,000
Graham, Hinckley & Co.	2,500
H. Marquardt & Co.	600
Thebaud Brothers	200
H. W. Peabody & Co.	200

APRIL 9.—By the *Etruria*=Liverpool:

O. G. Mayer & Co.	15,000
Reimers & Co.	6,600

APRIL 9.—By the *El Sud*=New Orleans:

A. T. Morse & Co.	6,000
Harburger & Stack	1,000

APRIL 10.—By the *Altai*=Greytown:

Andreas & Co.	1,000
G. Amsinck & Co.	500
For Europe	2,000

Albert T. Morse & Co.	37,500	7,400	20,000		64,900
Otto G. Mayer & Co.	118,700	15,900	28,400	16,000	179,000
Boston Rubber Shoe Co.	11,800	1,800	2,400	34,900	50,900
William Wright & Co.	5,300	800	5,700	12,100	23,900
Hagemeyer & Brunn	10,000		2,100		12,100
Lawrence, Johnson & Co.			11,400		11,400

Total..... 523,300 81,100 201,800 94,600= 900,800

April 11.—By the steamer *Dunstan*, from Manáos and Pará:

Reimers & Co.	146,700	23,200	98,300	25,300	293,500
New York Commercial Co.	114,400	24,900	75,600	15,800	230,700
Crude Rubber Co.	154,700	21,800	33,200	7,700	217,400
Boston Rubber Shoe Co.	26,800	2,800	17,600	80,300	125,500
Albert T. Morse & Co.	51,300	12,400	48,500	800	143,000
Otto G. Mayer & Co.	15,100	1,200	10,500		26,800
Hagemeyer & Brunn	10,900				10,900
Charles Ahrenfeldt & Son				8,100	8,100
George G. Cowl	3,900	1,100	2,300	200	7,500
Edmund Reeks & Co.	1,000	300	4,800		6,100

Total..... 554,800 87,700 290,800 136,200=1,069,500

April 18.—By the steamer *Hubert*, from Manáos and Pará:

Reimers & Co.	111,900	29,500	60,600	12,100	214,100
New York Commercial Co.	75,800	13,000	34,100	900	123,800
Boston Rubber Shoe Co.	28,600	9,300	6,100	13,700	57,700
Edmund Reeks & Co.	33,200	3,200	5,100		41,500
Albert T. Morse & Co.	19,100	3,300	14,500		36,900
Crude Rubber Co.	22,200	3,600	7,400		33,200
Lawrence Johnson & Co.	12,000	1,100	7,600		20,700
George G. Cowl	8,600	2,500	2,400		13,500
Otto G. Mayer & Co.	200	4,000	1,200		5,400

Total..... 311,600 69,500 139,000 26,700= 546,800

[NOTE.—The steamer *Fluminense* sailed from Pará on April 17 with 225 tons of rubber for New York.]APRIL 11.—By the *Oceanic*=Liverpool: 94,300
Joseph Cantor..... 7,500APRIL 12.—By the *Advance*=Colon:

Isaac Brandon & Bros.	5,800
Piza Nephews & Co.	2,100
W. L. Rathbun & Co.	500

APRIL 13.—By the *Vigilancia*=Mexico:

H. Marquardt & Co.	9,700
F. Probst & Co.	1,600
H. W. Peabody & Co.	800
F. Harmony Nephews & Co.	700
E. Steiger & Co.	200

APRIL 17.—By the *El Rio*=New Orleans:

A. T. Morse & Co.	5,000
W. R. Grace & Co.	4,000
A. N. Rotholz	2,500

APRIL 17.—By the *Adirondack*=Port Limon:

Gulterman, Rosenfeld & Co.	2,000
For Europe	3,000

APRIL 18.—By the *Financ*=Colon:

Ellinger Bros.	2,000
H. Marquardt & Co.	2,500
Kunhardt & Co.	1,300
W. Loalza & Co.	400

APRIL 19.—By the *Teutonic*=Liverpool:

Reimers & Co.	2,500
George A. Alden & Co.	2,300
Crude Rubber Co.	2,000

APRIL 21.—By the *Palatia*=Hamburg:

Reimers & Co..... 5,000

APRIL 23.—By the *Orizaba*=Mexico:

E. Steiger & Co.	6,000
H. W. Peabody & Co.	2,500
H. Marquardt & Co.	2,500
Thebaud Brothers	2,000
L. N. Chemedlin & Co.	500
J. W. Wuppermann	500

APRIL 23.—By the *Louisiana*=New Orleans:

Albert T. Morse & Co.	12,500
W. R. Grace & Co.	4,000

APRIL 23.—By the *Alene*=Greytown:

A. P. Strout	12,600
Roldan & Van Sickle	2,300
A. D. Straus & Co.	1,000
Andreas & Co.	1,000
G. Amsinck & Co.	1,000
A. N. Rotholz	1,000
For London	1,000

APRIL 23.—By the *Themis*=Colon:

Czarnikow, McDougal & Co..... 12,600

94,300

207,700

G. Amsinck & Co.	14,500
Hirzel, Feltman & Co.	7,500
A. P. Strout	5,500
Eggers & Heinlein	4,000
Dumarest & Co.	4,000
Flint, Eddy & Co.	3,000
New York Commercial Co.	2,000
Kunhardt & Co.	2,000
Lanman & Kemp	1,500
A. Santos & Co.	1,200
W. B. Grace & Co.	1,000
Ellinger Bros.	1,000
F. Probst & Co.	900
Jimenez & Escobar	800
A. S. Lascellas & Co.	700
Klimenhorst & Co.	500
D. A. De Lima & Co.	300
Isaac Brandon & Bros.	300
H. Marquardt & Co.	200

AFRICANS.

MARCH 23.—By the <i>Oceanum</i> =Lisbon:	
Reimers & Co.	11,000
[Correction—see last month's report.]	
MARCH 27.—By the <i>Friesland</i> =Antwerp:	
George A. Alden & Co.	36,000
Crude Rubber Co.	36,000
Otto G. Mayer & Co.	44,500 116,500
MARCH 28.—By the <i>Boote</i> =Liverpool:	
George A. Alden & Co.	15,000
Crude Rubber Co.	14,000
William Wright & Co.	26,500
Livesey & Co.	5,000
Otto G. Mayer & Co.	11,000 71,000
MARCH 28.—By the <i>Peninsular</i> =Lisbon:	
Crude Rubber Co.	88,000
George A. Alden & Co.	69,000 157,000
MARCH 29.—By the <i>Albano</i> =Hamburg:	
Albert T. Morse & Co.	15,000
MARCH 30.—By the <i>Germanic</i> =Liverpool:	
Crude Rubber Co.	3,500
George A. Alden & Co.	2,500 6,000
MARCH 31.—By the <i>Phoenicia</i> =Hamburg:	
A. T. Morse & Co.	17,000
Livesey & Co.	4,000 21,000
MARCH 31.—By the <i>Lucania</i> =Liverpool:	
George A. Alden & Co.	28,500
Crude Rubber Co.	26,500
Reimers & Co.	4,000
Livesey & Co.	3,000
Otto G. Mayer & Co.	9,000
A. T. Morse & Co.	11,000
William Wright & Co.	4,000 84,000
APRIL 7.—By the <i>European</i> =London:	
Reimers & Co.	6,000
Otto G. Mayer & Co.	7,000 13,000
APRIL 9.—By the <i>Etruria</i> =Liverpool:	
George A. Alden & Co.	17,500
Crude Rubber Co.	17,000
Otto G. Mayer & Co.	2,000
William Wright & Co.	20,500 57,000

APRIL 11.—By the <i>Oceanic</i> =Liverpool:	
George A. Alden & Co.	5,000
Crude Rubber Co.	5,000 10,000
APRIL 12.—By the <i>Philadelphia</i> =Liverpool:	
George A. Alden & Co.	36,000
Crude Rubber Co.	20,000 56,000
APRIL 14.—By the <i>Campania</i> =Liverpool:	
Reimers & Co.	14,500
George A. Alden & Co.	6,500
Crude Rubber Co.	2,000
Livesey & Co.	9,500 32,500
APRIL 18.—By the <i>Kensington</i> =Antwerp:	
Albert T. Morse & Co.	65,000
Reimers & Co.	51,000
Joseph Cantor	4,500 120,500
APRIL 19.—By the <i>Teutonic</i> =Liverpool:	
Reimers & Co.	11,500
George A. Alden & Co.	5,500
Crude Rubber Co.	6,000
A. T. Morse & Co.	11,500 33,000
APRIL 21.—By the <i>Palatia</i> =Hamburg:	
Reimers & Co.	15,000
Livesey & Co.	11,000
George A. Alden & Co.	8,000
Albert T. Morse & Co.	5,000
Crude Rubber Co.	20,000 59,000
APRIL 23.—By the <i>Columbian</i> =Liverpool:	
Crude Rubber Co.	33,000
George A. Alden & Co.	22,500
Otto G. Mayer & Co.	22,500 78,000

EAST INDIAN.

MARCH 26.—By the <i>New York</i> =Southampton:	
Reimers & Co.	6,500
APRIL 4.—By the <i>Afridi</i> =Singapore:	
George A. Alden & Co. (Pontianak).	400,000
Reimers & Co. (Pontianak).	120,000 520,000
APRIL 12.—By the <i>Glenloch</i> =Singapore:	
J. W. Greene & Co. (Pontianak).	252,000
Reimers & Co. (Pontianak).	270,000
George A. Alden & Co. (Pontianak).	62,000
Order Jeager & Co. (Pontianak).	57,000
Otto G. Mayer & Co. (Pontianak).	30,000 671,000
GUTTA-PERCHA AND BALATA.	
MARCH 23.—By the <i>Graf Waldersee</i> =Hamburg:	
George A. Alden & Co.	5,000
MARCH 31.—By the <i>Phoenicia</i> =Hamburg:	
R. Soltan & Co.	35,000
APRIL 7.—By the <i>Pennsylvania</i> =Hamburg:	
R. Soltan & Co.	5,000
APRIL 12.—By the <i>Menominee</i> =London:	
Lamb Manufacturing Co.	5,000
BALATA.	
MARCH 30.—By the <i>Tyomo</i> =Trinidad:	
Thebaud Brothers.	2,500

MARCH 31.—By the <i>Phoenicia</i> =Hamburg:	
R. Soltan & Co.	3,000
APRIL 23.—By the <i>Grenada</i> =Trinidad:	
George A. Alden & Co.	1,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—MARCH.

Imports:	POUNDS.	VALUE.
India-rubber.	5,122,286	\$4,128,516
Gutta-percha.	26,851	14,400
Gutta-jelatang (Pontianak).	1,920,728	40,044
Total.	7,869,865	\$4,179,960
Exports:		
India-rubber.	122,304	\$98,701
Reclaimed rubber.	174,090	25,434
Rubber Scrap Imported.	1,331,205	\$78,306
[Average price per pound, 5.81 cents.]		

BOSTON ARRIVALS.

	POUNDS.	VALUE.
MARCH 1.—By the <i>Anglican</i> =London:		
George A. Alden & Co.—East Indian.	1,770	3,465
Crude Rubber Co.—East Indian.	1,808	
MARCH 5.—By the <i>Sardinia</i> =Hamburg:		
George A. Alden & Co. Africans.	4,132	
MARCH 5.—By the <i>Sachem</i> =Liverpool:		
George A. Alden & Co. Africans.	2,774	
Reimers & Co. Africans.	11,199	
William Wright & Co. Africans.	11,885	25,888
MARCH 6.—By the <i>Utonia</i> =Liverpool:		
Livesey & Co. Africans.	1,240	
MARCH 10.—By the <i>Lancastrian</i> =Liverpool:		
George A. Alden & Co. Africans.	10,777	
MARCH 12.—By the <i>Michigan</i> =Liverpool:		
Crude Rubber Co. (Africans).	5,037	
Reimers & Co. (Africans).	9,906	14,943
MARCH 19.—By the <i>Sagamore</i> =Liverpool:		
George A. Alden & Co.—Africans.	3,627	
Otto G. Mayer & Co.—Africans.	12,912	
Crude Rubber Co. (Africans).	3,462	20,001
MARCH 25.—By the <i>Kansas</i> =Liverpool:		
Reimers & Co.—Africans.	673	
MARCH 24.—By the <i>Cestrian</i> =Liverpool:		
	400	
	POUNDS.	VALUE.
Total, January.	105,946	\$69,329
Total, February.	109,763	65,290
Total, March.	81,480	55,950
GUTTA-PERCHA.		
	POUNDS.	VALUE.
MARCH 7.—By the <i>Batavia</i> =Hamburg:		
Two bags samples (value \$41).	122	

MARCH EXPORTS OF INDIA-RUBBER FROM PARA (KILOGRAMS.)

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prusse & Co.	159,281	30,710	102,871	13,304	306,166	429,521	105,692	131,146	54,180	720,539	1,026,705
Adelbert H. Alden.	180,953	23,213	72,692	19,580	296,438	145,020	24,660	53,030	6,600	229,310	525,748
Frank da Costa & Co.	108,322	17,419	72,896	87,728	286,365	68,634	8,814	46,753	55,350	179,551	465,916
Rudolf Ziets.	26,783	5,612	11,466	—	43,861	96,173	17,824	35,193	19,613	168,803	212,664
The Sears Para Rubber Co.	128,403	18,343	28,218	4,800	179,764	—	—	—	—	—	179,764
Denis Crouan & Co.	—	—	960	—	960	81,163	15,313	14,455	—	110,931	111,891
R. Suarez & Co.	—	—	—	—	—	31,199	8,079	4,380	—	43,658	43,658
Kanthack & Co.	2,510	388	2,820	6,080	11,798	4,712	423	1,364	—	6,499	18,297
Comptoir Colonial Francaise.	—	—	—	—	—	9,053	1,686	3,279	630	14,648	14,648
Pires, Teixeira & Co.	9,974	—	1,054	—	11,025	—	—	—	—	—	11,025
Singlehurst, Brocklehurst & Co.	4,744	979	237	—	5,960	1,981	499	926	—	3,406	9,366
H. A. Astlett.	455	162	2,426	—	3,043	—	—	—	—	—	3,043
Sundry small dealers.	—	—	—	—	—	47,470	17,805	20,971	350	86,596	86,596
Direct from Iquitos.	—	—	—	—	—	38,060	1,090	58,093	12,455	109,698	109,698
Direct from Manaos.	185,678	37,147	71,711	46,036	340,572	392,058	79,158	319,111	214,640	1,004,967	1,345,539
Total for March.	807,100	133,973	367,351	177,528	1,485,952	1,345,044	281,043	688,701	363,818	2,678,606	4,164,558
Total for February.	784,893	158,029	414,034	119,914	1,476,870	1,052,837	227,124	399,964	208,270	1,888,195	3,365,065

TH

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CAOUTCHOUC *HEVEA BRASILIENSIS* *DICHOPOPS GUTTA* GUTTA-PERCHA

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MAY 1, 1900.

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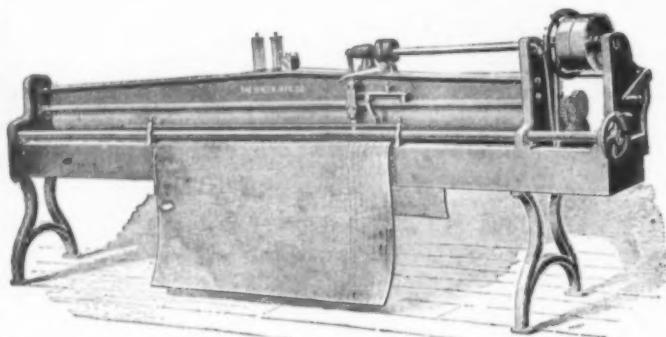
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